TANDBERG

# Conferencing eXtensions for Microsoft Exchange

## Administrator Guide

D14197 03

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# INTRODUCTION

TANDBERG Conferencing eXtensions for Microsoft Exchange (referred to as TCX) is an optional add-on to the TANDBERG Management Suite (referred to as TMS) that allows you to fully integrate the scheduling functionality of TMS with your existing Microsoft Exchange deployment. This integration gives users the ability to schedule video conferences and invite participants directly from their Microsoft Outlook clients while viewing availability information of resources regardless of where meetings are created.

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# INSTALLATION

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# Pre-Installation Information

TCX synchronizes Microsoft Exchange Calendaring and TMS Scheduling by installing components in the backend servers of an Exchange Organization. By installing in the backend, all users of the organization can benefit from a single installation. TCX is installed on an Exchange 2003 or 2007 Server in the organization, and accounts integrated with TMS must be hosted by the Information Store of that server.

Only one TCX installation is required per Exchange Organization as long as all users have access to the resource accounts hosted by that server. There should never be more than one TCX installation in a single domain. Installations with complex security models where users cannot see accounts across domains should contact their TANDBERG sales representatives for assistance planning more complex deployments. For more information on how TCX integrates with your Exchange Organization and details on server changes, please refer to the **Changes and Impact of TCX Installation on Existing Servers** section.

# Server Requirements

The installation requirements vary based on if you are installing on an Exchange 2003 or 2007 server. The requirements assume you are installing on an operational Exchange Server and all Microsoft requirements for Exchange Server are satisfied.

## Exchange Server 2003 Installations

| | DETAILS |
|---|---|
| Exchange 2003 Server w/Service Pack 2 | • Standard or Enterprise Editions<br>• Exchange System Manager must be installed on the server<br>• Latest Service pack recommended |
| Windows Server 2003 32bit w/Service Pack 1 or later | • Standard/Enterprise/Datacenter Edition all compatible<br>• Server 2003 R2 also compatible<br>• Latest Service pack recommended<br>• Domain functional level Windows 2000 Native or higher |

## Exchange Server 2007 Installations [*]

| | DETAILS |
|---|---|
| Exchange 2007 Server w/Service Pack 1 or later | • Standard or Enterprise Editions<br>• The Server must have the Mailbox Server Role installed<br>• Latest Service pack recommended<br>• Public Folders required to use Direct Resource Booking option or publishing custom form (optional) |
| Windows Server 2003 64bit w/Service Pack 2 or later | • Standard/Enterprise/Datacenter Edition all compatible<br>• Server 2003 R2 also compatible<br>• Latest Service pack recommended<br>• Domain functional level Windows 2000 Native or higher |
| Windows Server 2008 64bit | • Standard/Enterprise/Datacenter Edition all compatible<br>• Latest Service pack recommended<br>• Domain functional level Windows 2000 Native or higher |

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Domain Functional Level Note - The group permissions used on the calendars are not compatible with the "Windows 2000 mixed" domain level. If your domain is not Windows 2000 Native Mode or higher, you can not use the Direct Resource Booking mode until you apply your own set of permissions on the resource calendars by logging on to each mailbox using Microsoft Outlook.

Connectivity between Exchange Server and TMS – The Integration requires that the Exchange Server where TCX is installed can open a HTTP/HTTPS connection to the TMS server. Also required is that the Mail Server TMS is defined to use, can send emails to the Exchange server's domain.

[*]Microsoft only supports Exchange Server 2007 in 64bit installations for production use. Exchange Server 2007 32bit versions are provided for testing and evaluation purposes only. The 32 bit version of TCX can be used with 32bit Exchange Server 2007 test environments but is not supported for production use.

## Client Requirements

| | |
|---|---|
| Microsoft Outlook 2002 | • Latest Service pack recommended |
| Microsoft Outlook 2003 w/Service Pack 1 or later | • Latest Service pack recommended |
| Microsoft Outlook 2007 | • Latest Service pack recommended |
| Outlook Web Access | • Requires using the Asynchronous Booking Model – Direct Resource Booking not support in OWA<br>• TANDBERG Custom Form not available when using OWA |

## TMS Requirements

| | |
|---|---|
| Version | • TMS 12.0 or later |
| Network | • HTTP (HTTPS optional) connectivity from the Exchange Server to TMS<br>• TMS must be able to send emails to the Exchange Server's domain |
| Licensing | • One Exchange Integration License required per TMS system integrated<br>or<br>• One Application Integration License required per Exchange Server integrated with TMS |

## Permissions required to perform installation

Performing the TCX installation requires logging into the Exchange Server as a user with specific administrator permissions. Before continuing, verify the user account you will use to perform the installation has the following permissions:

- Windows Domain Administrator for the local domain or has delegated administrative access to the OU in Active Directory where all accounts are to be created
- Windows Administrator of the local machine you are installing on
- Exchange Full Administrator if using Exchange 2003 or Exchange Recipient Administrator for Exchange 2007 Installs

For organizations where Active Directory and Exchange permissions are segregated and no exception can be made to use the TCX software, see the section **Appendix - Using TCX Integration with Separate Admin Roles** for information on installing via manual methods.

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During the installation you will also setup a service user on the TMS Server. If not reusing an existing account for the TMS Service User, you must supply user credentials that can create a new one. The user credentials must have the following permission:

- A Windows Administrator of the server TMS runs on
- Must have a User Profile in TMS and be a member of the Site Administrator's group

# Installation and Upgrades

Completing the installation of TCX requires completing the sections below. Each section must be reviewed for both upgrades and new installations.

- Upgrading from TANDBERG Microsoft Exchange Integration
- Installation of Server Software
- Initialization of Resource Accounts
- Starting the Synchronizer
- Configure Security Settings and Tuning
- Optional - Deploying the TANDBERG Form

## Upgrading from a previous Integration installation

Upgrading from TANDBERG Exchange Integration with Exchange Server 2003?

- If you are currently using Exchange Server 2003 and plan to upgrade to TCX without changing to Exchange Server 2007, review the section **Upgrading to TCX on Exchange 2003** for pre-installation steps and information on changes in how your integration will differ with the new TCX product before continuing.

Upgrading from TANDBERG Exchange Integration AND migrating to Exchange Server 2007?

- If you are currently using Exchange Server 2003 and are upgrading your integration installation to an Exchange 2007 Server, review the section **Upgrading to TCX and Migrating to Exchange 2007** for specific information on pre-installation needs changes in how your integration will differ with the new TCX product before continuing

Upgrading from an earlier version of TCX and not changing Exchange Server versions?

- If you are running an earlier version of TCX and not changing Exchange Server versions, you can continue with the installation steps as normal and the installer will handle your existing version automatically.

## Installation of Server Software

If reinstalling or upgrading the software on a server where TCX was previously installed, the installer will automatically read the existing settings from the server's registry and skip steps where it does not need additional user input. Because of this, not all steps listed below may be shown. If any of the previous installation's values need to be changed, these can be changed using the Configuration Utility post-installation.

1. Log into the Windows console of the Exchange Server where TCX will be installed. Close all other running programs and any security/anti-virus software that may hinder installing the software.
2. Launch Setup File - The TCX installer is located on the TMS installation media. Open the index page by double-clicking browse.bat. Click the link to **Install TANDBERG** Conferencing eXtensions for Microsoft Exchange to start the installation program.

Note: There are separate installers for 64bit installations and 32bit installations – Please use the appropriate link for your server type.

3. Detecting a previous version - The installer will search for an existing installation of TCX and if found, will prompt if you wish to upgrade the existing installation. Click **Yes** to continue. The installer will automatically reuse settings it finds on the server.
4. Component Check - The installer will verify all the required Microsoft software components are installed on the server, and if not will present a list of components that must be updated. The installer will complete this task for you automatically (requires Internet Access), but may require a restart of the server after the installation is complete.

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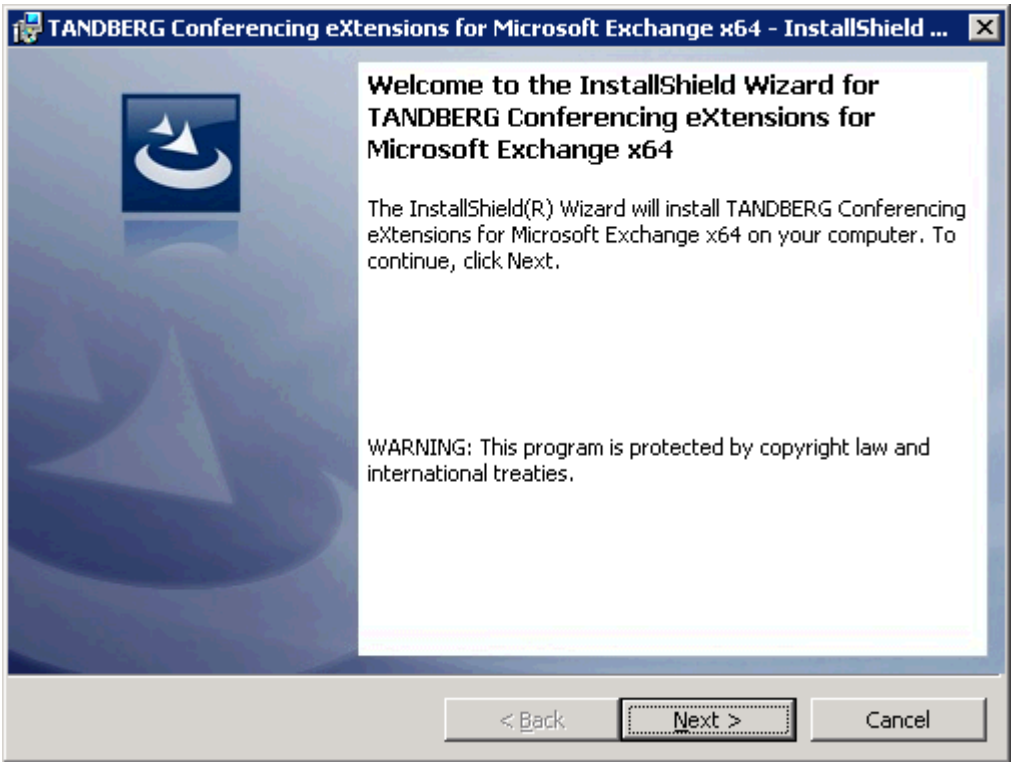
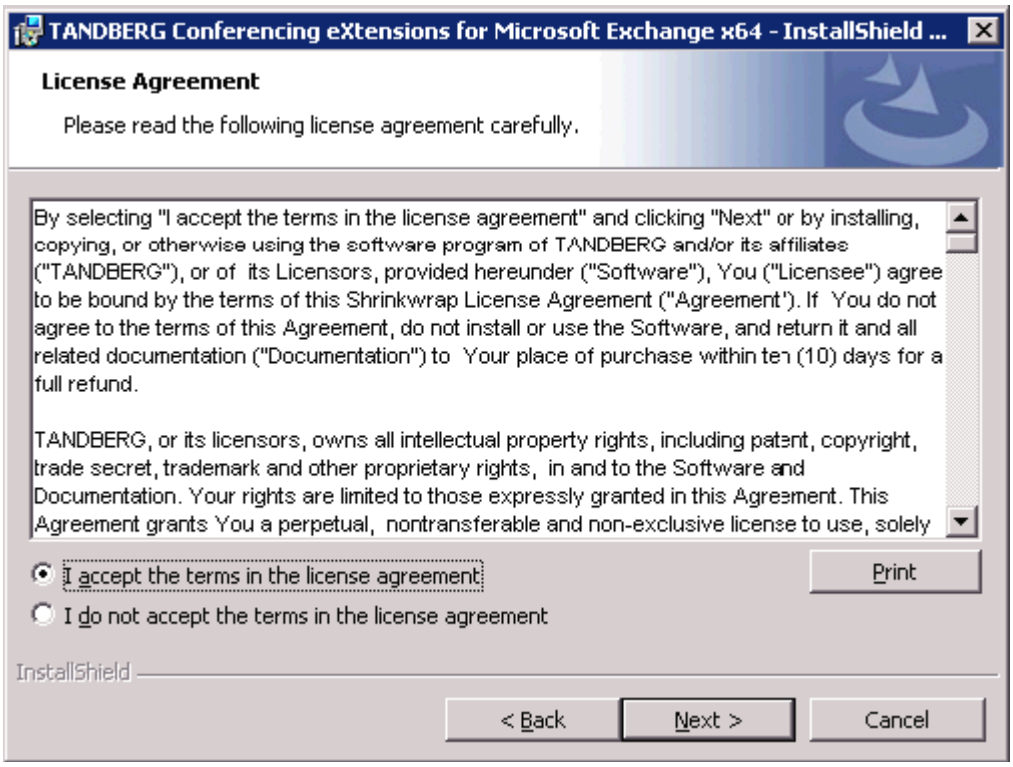
5. Installation Wizard - A welcome window will appear on the screen. Click the **Next** button


TANDBERG Conferencing eXtensions for Microsoft Exchange x64 - InstallShield ...
Welcome to the InstallShield Wizard for TANDBERG Conferencing eXtensions for Microsoft Exchange x64
The InstallShield(R) Wizard will install TANDBERG Conferencing eXtensions for Microsoft Exchange x64 on your computer. To continue, click Next.
WARNING: This program is protected by copyright law and international treaties.
< Back
Next >
Cancel

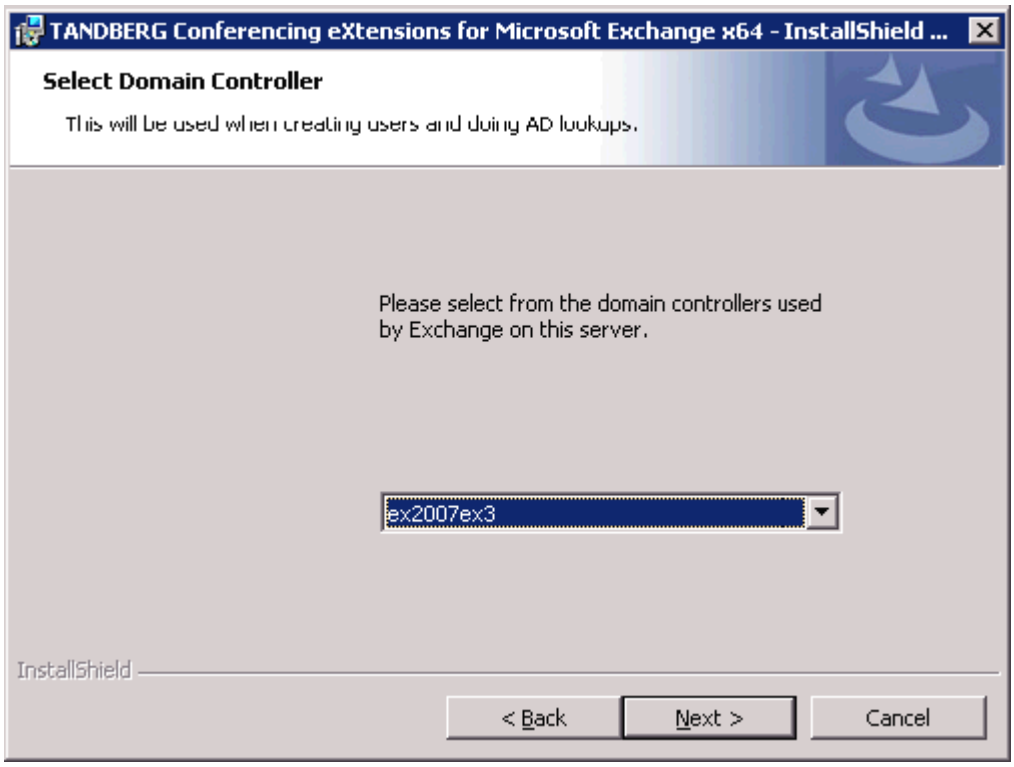
6. Read and Accept the License Agreement - Read the License Agreement and select the 'I accept the terms…' option. Click **Next** to continue. Selecting 'I do not accept the terms…' or clicking **Cancel** will terminate the installation.


TANDBERG Conferencing eXtensions for Microsoft Exchange x64 - InstallShield ...
License Agreement
Please read the following license agreement carefully.
By selecting "I accept the terms in the license agreement" and clicking "Next" or by installing, copying, or otherwise using the software program of TANDBERG and/or its affiliates ("TANDBERG"), or of its Licensors, provided hereunder ("Software"), You ("Licensee") agree to be bound by the terms of this Shrinkwrap License Agreement ("Agreement"). If You do not agree to the terms of this Agreement, do not install or use the Software, and return it and all related documentation ("Documentation") to Your place of purchase within ten (10) days for a full refund.
TANDBERG, or its licensors, owns all intellectual property rights, including patent, copyright, trade secret, trademark and other proprietary rights, in and to the Software and Documentation. Your rights are limited to those expressly granted in this Agreement. This Agreement grants You a perpetual, nontransferable and non-exclusive license to use, solely
I accept the terms in the license agreement
I do not accept the terms in the license agreement
Print
InstallShield
< Back
Next >
Cancel

7. Set the installation folder - Select the destination folder where the software should be installed. To accept the default location, click **Next** to continue. Otherwise, click **Change** to specify a custom installation path and click **Next** afterwards to continue.

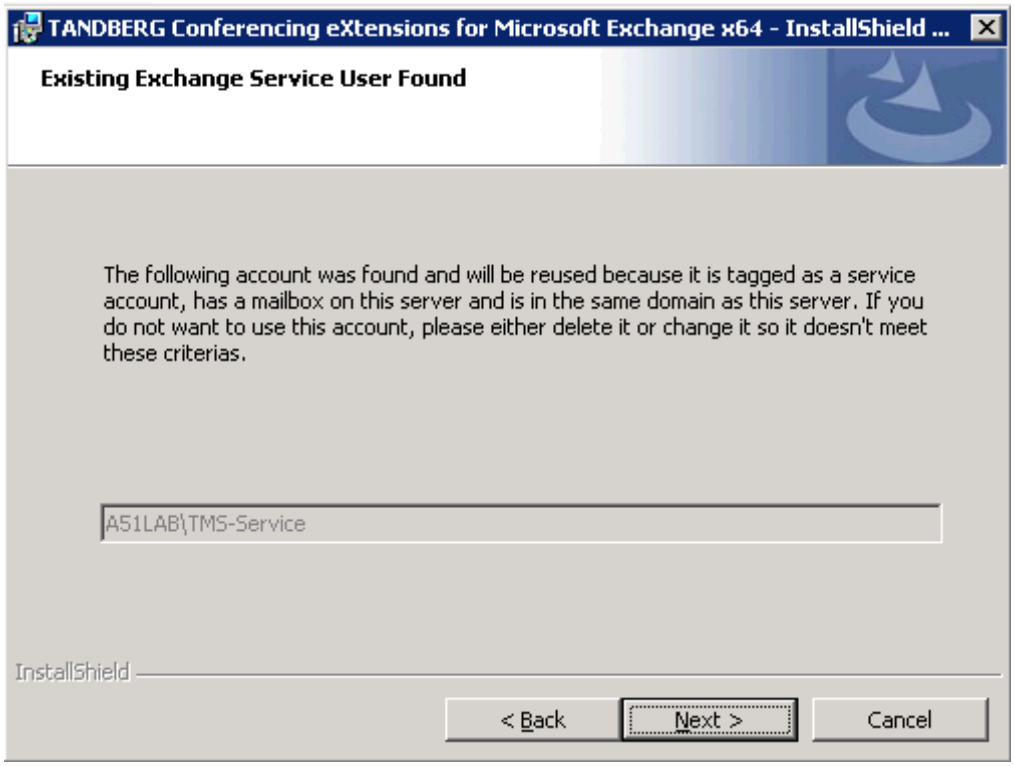
TANDBERG Conferencing Services for Microsoft Exchange - InstallShield Wizard
Destination Folder
Click Next to install to this folder, or click Change to install to a different foder.
Install TANDBERG Conferencing Services for Microsoft Exchange to:
C:\Program Files\TANDBERG\Conferencing Services for Microsoft Exchange\
Change...
InstallShield
< Back
Next >
Cancel

8. Select a Domain Controller - The installer will detect all domain controllers available to the Exchange Server and present them in a drop-down list. The domain controller selected will used by TCX software when interacting with Active Directory. Select your desired server from the drop-down list if necessary, and click **Next** to continue


TANDBERG Conferencing eXtensions for Microsoft Exchange x64 - InstallShield ...
Select Domain Controller
Please select from the domain controllers used by Exchange on this server.
ex2007ex3
InstallShield
< Back
Next >
Cancel

9. Configure the Service User for Exchange - Next the installer must configure the service account to use on the Exchange Server. The installer's choices will vary depending if an existing service account is found and if not, what choices you make to specify a new account. Each path is outlined below:

The service account used must be allowed to have the 'Log on as Batch Job' permission in the local security policy. Ensure there are no Group Policies that would override the configuration of this permission.


TANDBERG Conferencing eXtensions for Microsoft Exchange x64 - InstallShield ...
Existing Exchange Service User Found
The following account was found and will be reused because it is tagged as a service account, has a mailbox on this server and is in the same domain as this server. If you do not want to use this account, please either delete it or change it so it doesn't meet these criterias.
A51LAB\TMS-Service
InstallShield
< Back
Next >
Cancel

**Installer finds an existing account**

If a service account exists from a previous installation or manual configuration, it will automatically be detected and you are prompted to accept this user.

To not re-use this account, you must click **Cancel** and remove the custom attribute from the account's mailbox or delete the account and mailbox all together and restart the installation.

To continue and use this user, click **Next**.

The next screen presents choices for the service account's password. The TCX software must know the password for the service user. Select from the available options: *Reset the Password to a strong password*, *Supply a new password* or *Supply the existing password to the account*. Make your selection, filling in the password fields if necessary and click **Next** to continue.

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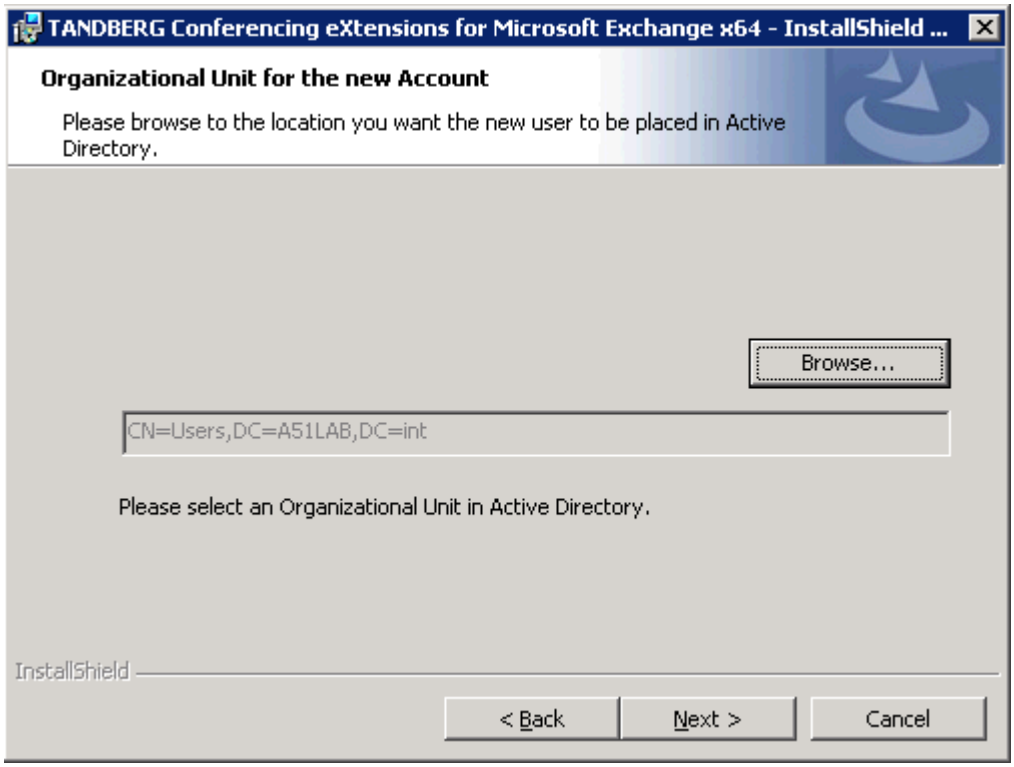
TANDBERG Conferencing eXtensions for Microsoft Exchange x64 - InstallShield ...
Exchange Service User Password
Please select from the password options below.
Reset the password to a strong random password (recommended)
I want to supply a new password below
I have the password and will provide it below
Confirm new password:
InstallShield
< Back
Next >
Cancel

**No Existing Account Found**

If no pre-configured service account is found, the installer will prompt if you wish to create a new account, or reuse an existing Active Directory account. The installer's steps will update depending on the option chosen.

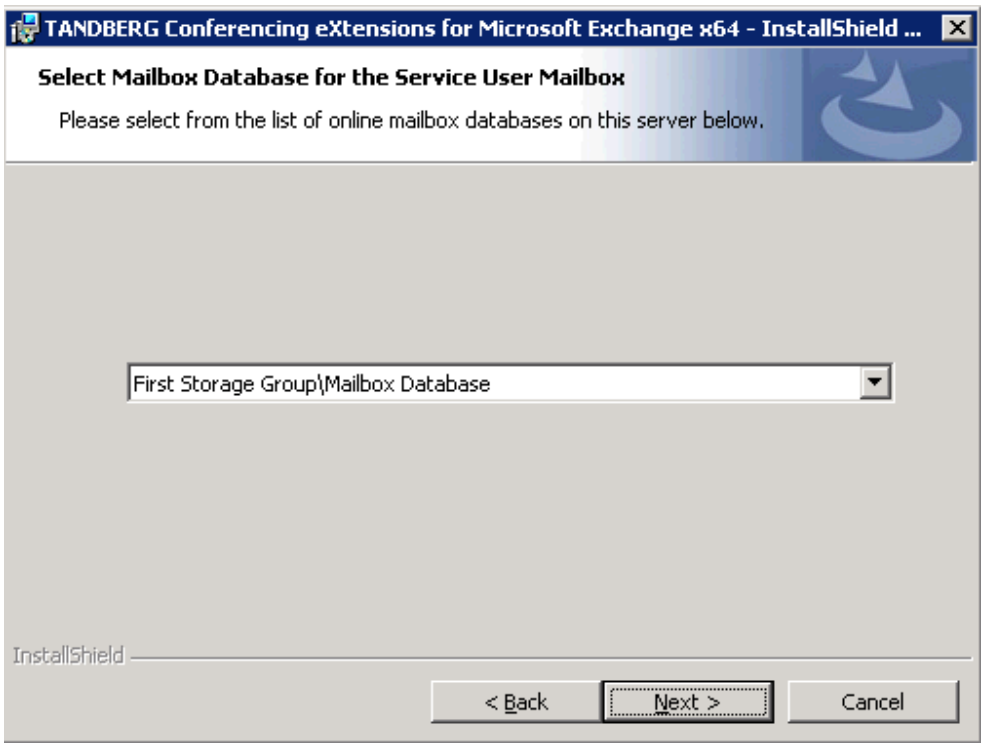
**Steps to create a new service account (Recommended)**

a) Select *I want the installer to create the account* and click **Next**


TANDBERG Conferencing eXtensions for Microsoft Exchange x64 - InstallShield ...
Organizational Unit for the new Account
Please browse to the location you want the new user to be placed in Active Directory.
Browse...
CN=Users,DC=A51LAB,DC=int
Please select an Organizational Unit in Active Directory.
InstallShield
< Back
Next >
Cancel

Specify the OU where the account should be created. Click the **Browse** button to locate which Organizational unit the account should be placed in. Select the OU you wish to use, or click **New** to create a new OU. Click **OK** once you have made your selection. Then click **Next** to continue.

b) Select which mailbox store should be used for the mailbox of the account. The drop-down list will show all available databases on the local Exchange Server. Select one and click **Next** to continue.


TANDBERG Conferencing eXtensions for Microsoft Exchange x64 - InstallShield ...
Select Mailbox Database for the Service User Mailbox
Please select from the list of online mailbox databases on this server below.
First Storage Group\Mailbox Database
InstallShield
< Back
Next >
Cancel

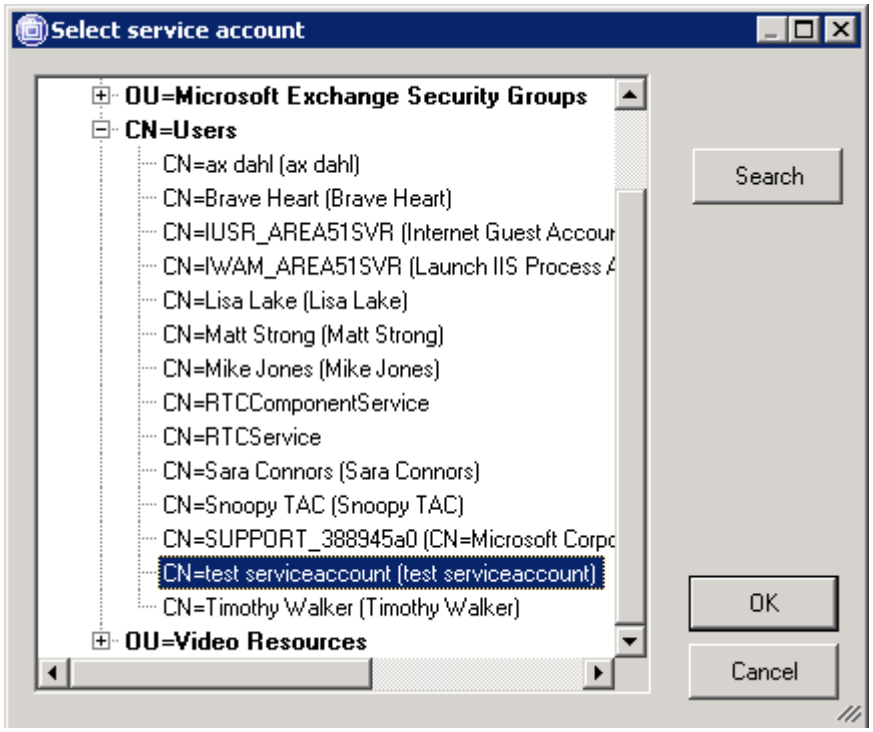
c) The installer will create a new account *TMS-Service* with a strong password in the specified OU with a mailbox configured as needed for use with TCX in the mail database specified.

**Steps to use an existing domain account (Manual Configuration)**

a) Select *I want to use an existing domain account*. To use this option, the existing account must be a member of the local domain, must not have an existing mailbox on another server, and must have the 'Log on as Batch Job' permission in the server's Local Security Policy[*]. Click **Next** to continue.

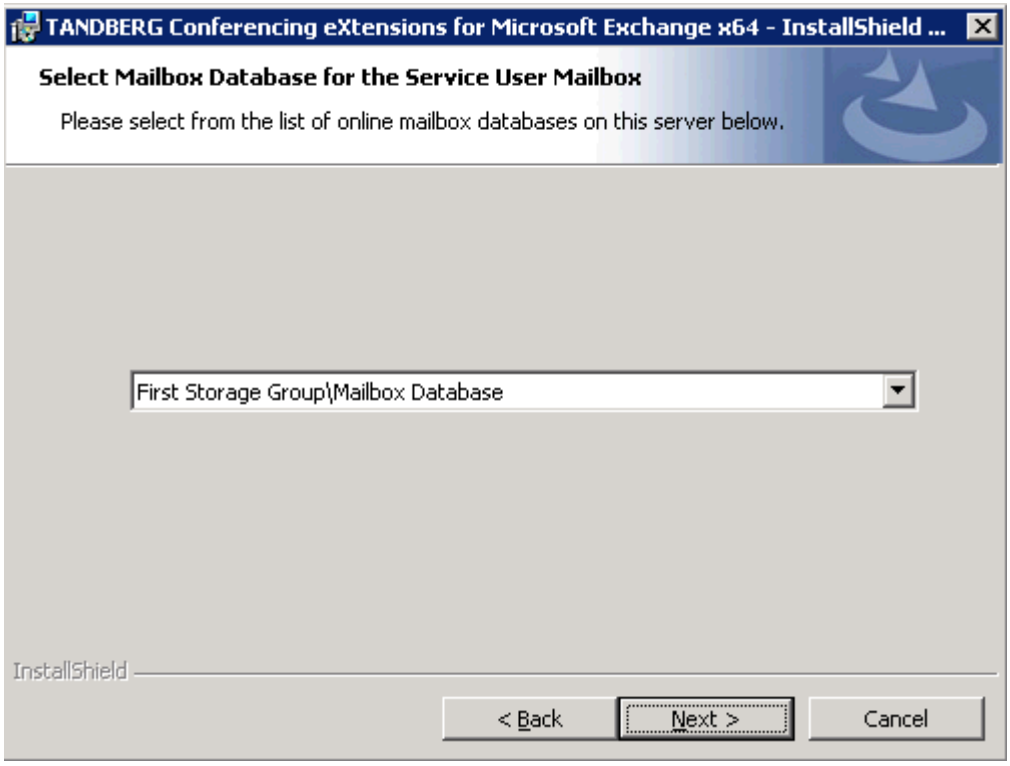
See http://technet.microsoft.com/en-us/library/cc739028.aspx for assistance on assigning user rights for your local computer]

b) Locate the existing account. Click the **Browse** button to open a directory browser. Locate the account by browsing or using the **Search** button. Select the Account and click **OK.**




c) The screen will update to show your selected account. Click **Next** to continue.

d) Select which mailbox store should be used for the mailbox of the account. The drop-down list will show all available databases on the local Exchange Server. Select one and click **Next** to continue.


TANDBERG Conferencing eXtensions for Microsoft Exchange x64 - InstallShield ...
Select Mailbox Database for the Service User Mailbox
Please select from the list of online mailbox databases on this server below.
First Storage Group\Mailbox Database
InstallShield
< Back
Next >
Cancel

e) Set the Service User's password. The TCX software must know the password for the service user. Select from the available options: *Reset the Password to a strong*

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*password, Supply a new password, or Supply the existing password to the account*. Make your selection, filling in the password fields if necessary and click **Next** to continue.

TANDBERG Conferencing eXtensions for Microsoft Exchange x64 - InstallShield ...
Exchange Service User Password
Please select from the password options below.
Reset the password to a strong random password (recommended)
I want to supply a new password below
I have the password and will provide it below
Confirm new password:
InstallShield
< Back
Next >
Cancel

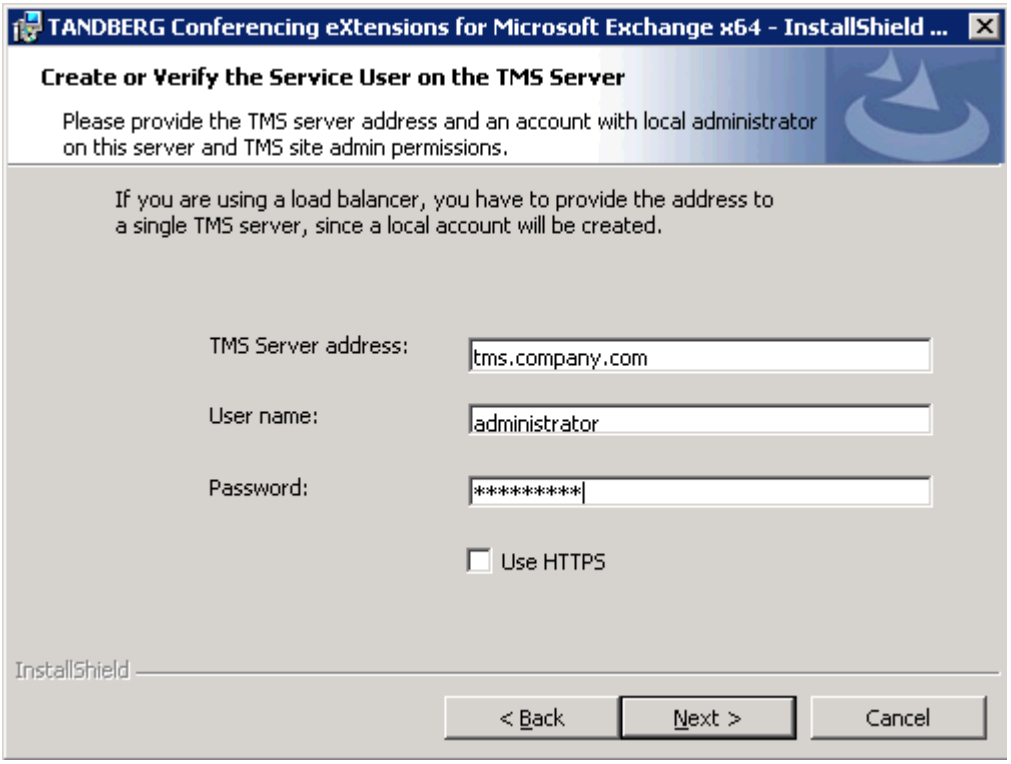
f) The installer will create or update the user's mailbox in the specified database store and configure it for use with TCX.

10. Select the Service Account for TMS - Next the installer must configure the service account to use on the TMS Server. You have the option to let the installer detect a previously used account and create a new account if needed (recommended), or manually specify an existing account on the TMS Server. The installer's steps will update depending on your selection.

**Alternative 1 (Recommended): Let the installer detect and create if needed.**

a) Select *Let the installer create a service account if needed* and click **Next.**

b) Enter the network address to the TMS server, along with a set of user credentials that has the appropriate administrator permissions on the TMS server as outlined in the start of this section. The **Use HTTPS** checkbox can only be used if your server has been configured to use HTTPS[1]. Fill in the fields and click **Next** to continue.


TANDBERG Conferencing eXtensions for Microsoft Exchange x64 - InstallShield ...
Create or Verify the Service User on the TMS Server
Please provide the TMS server address and an account with local administrator on this server and TMS site admin permissions.
If you are using a load balancer, you have to provide the address to a single TMS server, since a local account will be created.
TMS Server address:
tms.company.com
User name:
administrator
Password:
Use HTTPS
InstallShield
< Back
Next >
Cancel

The installer will look for an existing service user account on the Windows server based on your domain's email. If one is found, the installer will re-use it, otherwise the installer will create a new one. If needed, the installer will create a local Windows user account *tmsconfuser* on the TMS server, setup a TMS profile for the user, and assign it permissions within TMS needed to operate with TCX.

**Alternative 2: Manually specify an existing TMS service account (Manual Configuration)**

a) Select *I have created a service user on the TMS server* and click **Next.**

[1] Please see the TANDBERG document titled *Implementing Secure Management (HTTPS)* for more information on configuring TMS for HTTPS

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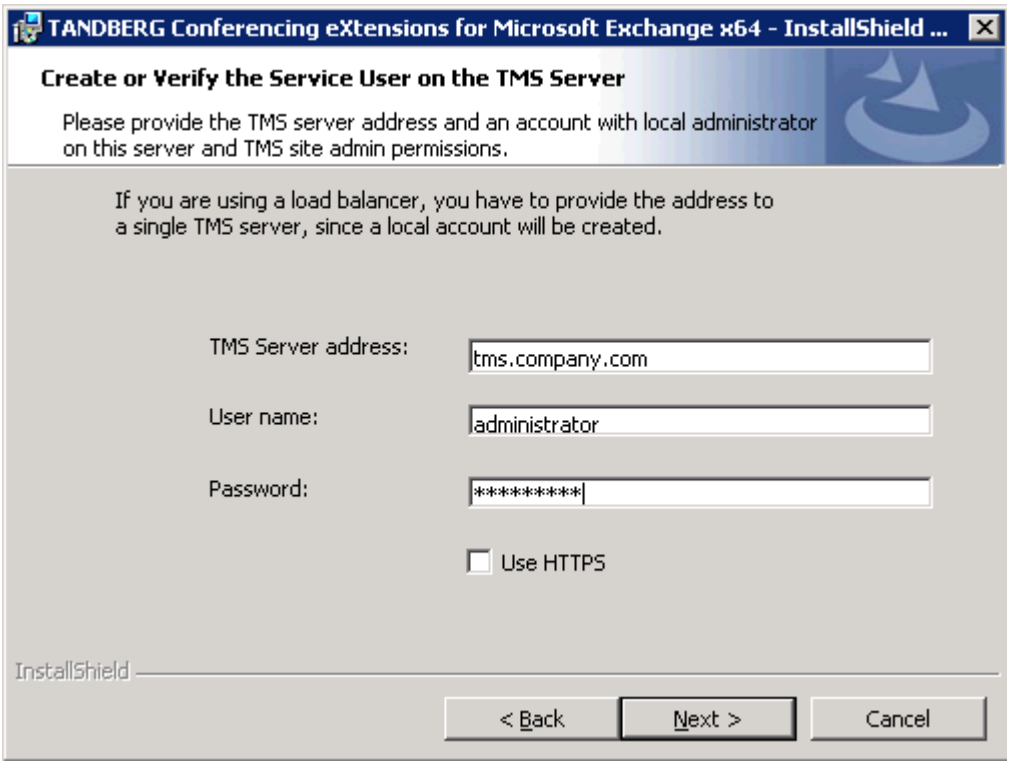
b) Enter the network address to the TMS server, along with the user name and password of the existing service account. The **Use HTTPS** checkbox can only be used if your server has been configured to use HTTPS[2]. Fill in the fields and click **Next** to continue.


TANDBERG Conferencing eXtensions for Microsoft Exchange x64 - InstallShield ...
Create or Verify the Service User on the TMS Server
Please provide the TMS server address and an account with local administrator on this server and TMS site admin permissions.
If you are using a load balancer, you have to provide the address to a single TMS server, since a local account will be created.
TMS Server address:
tms.company.com
User name:
administrator
Password:
**********
Use HTTPS
InstallShield
< Back
Next >
Cancel

When reusing an existing account, the user's TMS profile must be configured for TCX manually. Open a web browser and log into your TMS server with a username that is a Site Administrator. Edit the user's profile under ***Administrative Tools >User Administration > Users***. In the account's profile, set **Exchange Integration Service Account** to *Yes*. Set the user's email address to the Exchange Service Account's (the TMS-Service user) email address. Ensure the user is a member of a TMS group that has the *Book on behalf* permission set in the ***Group Permissions***. Save the changes to the user's profile. You can close your web browser and return to the TCX installer.

[2] Please see the TANDBERG document titled *Implementing Secure Management (HTTPS)* for more information on configuring TMS for HTTPS

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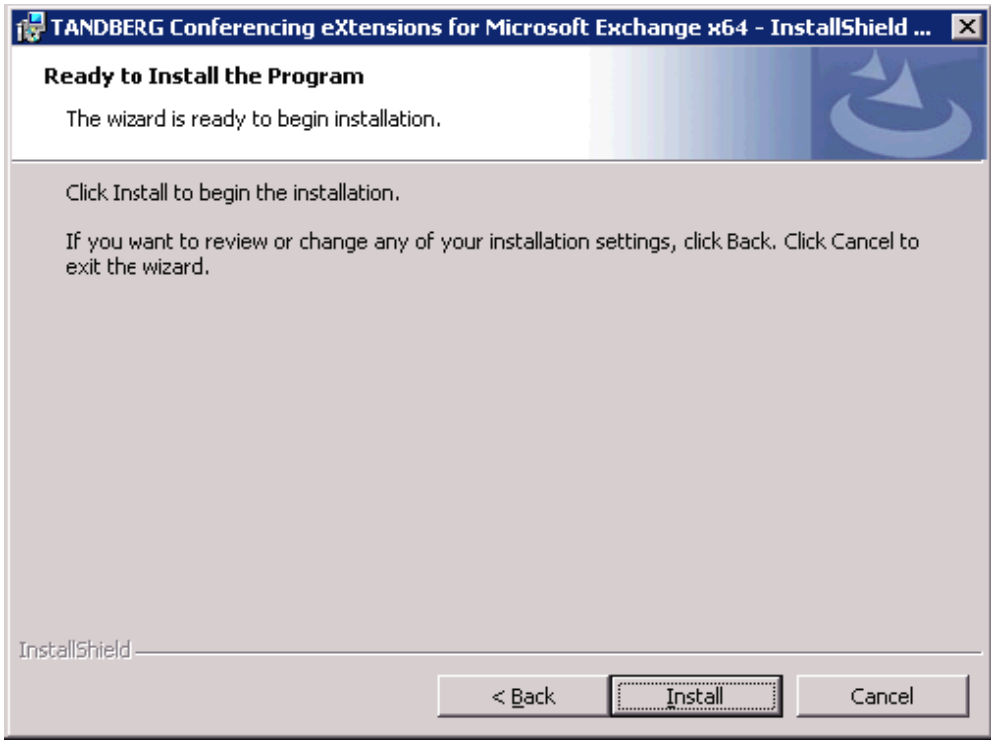
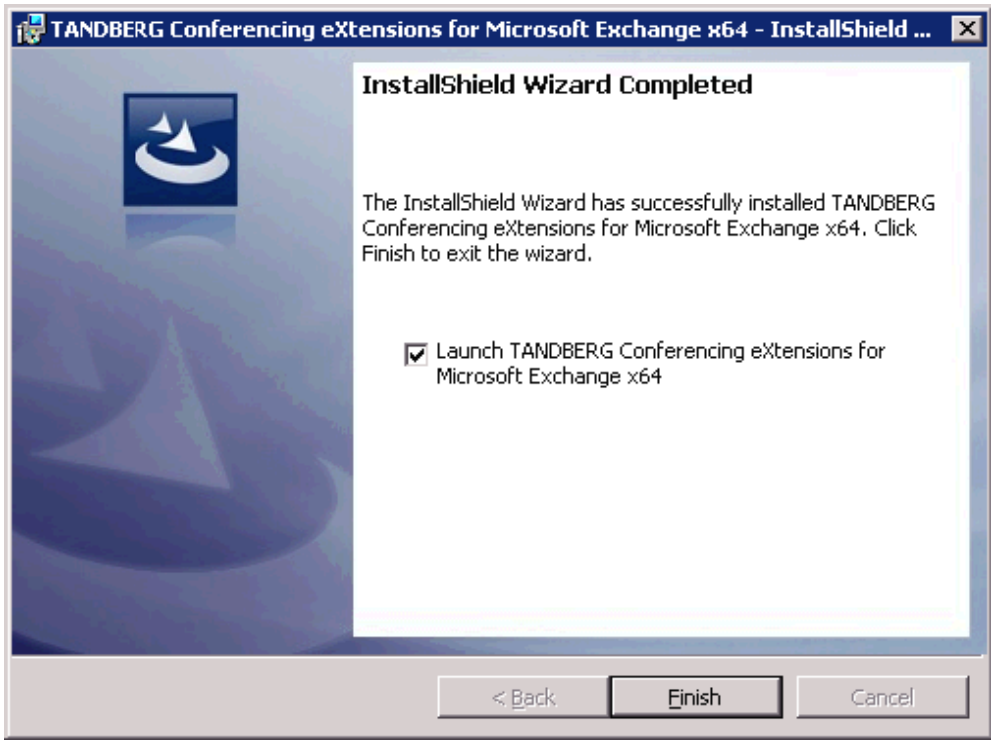
11. Start Installation - The installer now has all the information needed to complete the installation. Click **Install** and the installer will complete the necessary software and configuration setup on the Exchange Server.


TANDBERG Conferencing eXtensions for Microsoft Exchange x64 - InstallShield ...
Ready to Install the Program
The wizard is ready to begin installation.
Click Install to begin the installation.
If you want to review or change any of your installation settings, click Back. Click Cancel to exit the wizard.
InstallShield
< Back
Install
Cancel

12. Finish Installation - Once complete, a Finish screen is displayed.


TANDBERG Conferencing eXtensions for Microsoft Exchange x64 - InstallShield ...
InstallShield Wizard Completed
The InstallShield Wizard has successfully installed TANDBERG Conferencing eXtensions for Microsoft Exchange x64. Click Finish to exit the wizard.
Launch TANDBERG Conferencing eXtensions for Microsoft Exchange x64
< Back
Finish
Cancel

Leaving the checkbox marked will automatically launch the Configuration Utility so the next portion of the installation can be completed. Click **Finish** to close the installer and launch the Configuration Utility to complete the next phase of the installation.

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# Initialization of Resource Accounts

Each TMS system that you wish to be scheduled from Exchange will have a Domain user account and mailbox in the Exchange environment. The accounts must be configured with specific properties and settings to operate with TCX. The Configuration Utility installed as part of TCX allows creation, configuration, and management of these accounts. Additionally, the Configuration Utility is the tool used to change any behaviors of the TCX installation. The configuration utility can be found in the Start Menu, under ***Programs > TANDBERG > TANDBERG Conferencing eXtensions for Microsoft Exchange > TANDBERG Configuration***.

As part of a first time installation, you must configure and initialize the Exchange mailboxes that will represent the TMS systems to integrate. For upgrades, your existing accounts will automatically be reused, but launching the Configuration Utility is required to allow the diagnostics to be run on your existing accounts. If no new accounts are to be added, upgrade users can skip to the next section once they have opened the Configuration Utility at least one time and allowed the tool to repair their existing accounts.

To fully use the Configuration Utility, the logged in user must be a Domain Administrator and Exchange Full Administrator (or Exchange Recipient Administrator for Exchange 2007 Installs).

## Have existing resource or equipment accounts you already use for scheduling?

The configuration utility can automatically create new Active Directory accounts and mailboxes as part of the setup process for enabling TMS systems in Exchange. If you have existing Exchange Resource or Equipment mailboxes you currently use to represent video systems or rooms from TMS, you have the option to let the Configuration Utility reuse the existing accounts. The Configuration Utility will reconfigure them as necessary to work with the TCX integration including synchronizing the existing schedules between TMS and the account's calendar. This allows you to migrate from your Exchange-only model to an Exchange+TMS implementation. To reuse accounts in this manner, the account mailboxes must be prepared before attempting to configure them with the TCX utility.

### *Preparing Existing Mailboxes for use with TCX*

1. The resource account's Active Directory user account must be in the same domain as the Exchange Server where TCX is being installed. If the existing account is in another domain, migrate the user account to the local domain, or re-associate the existing mailbox to a local user account. Please be sure to allow sufficient time for domain replication when moving accounts. See Microsoft documentation for assistance, such as using the ADMT Tool to migrate accounts.
2. The mailbox must be moved to a database located on the Exchange Server where TCX was installed. Use the Exchange Management Console or shell to move the mailboxes. See this Microsoft article for assistance on moving mailboxes for Exchange 2007 or this article for Exchange 2003
3. If using Exchange 2007, if the mailbox is not already an Exchange 2007 Resource mailbox, convert it to a Resource mailbox using the Exchange Management Shell. Example:

```
set-Mailbox -Identity:ResourceName -Type:Room
```

Once prepped, the accounts can be selected when enabling a TMS system in the steps below.

## Enabling TMS Systems in Exchange

Once TCX Integration has been installed and operational, any new systems added to TMS that will be integrated with Exchange should not be booked in TMS until after they have been integrated with Exchange using the Configuration Utility.

Start up the Configuration Utility from the Start Menu. The utility is found at ***Programs > TANDBERG > TANDBERG Conferencing eXtensions for Microsoft Exchange > TANDBERG Configuration***.

As part of the start-up, the utility will perform a series of self-checks and diagnostics on the TCX configuration and the configured accounts. The utility will self-repair any issues it can, and will report any errors to the user.

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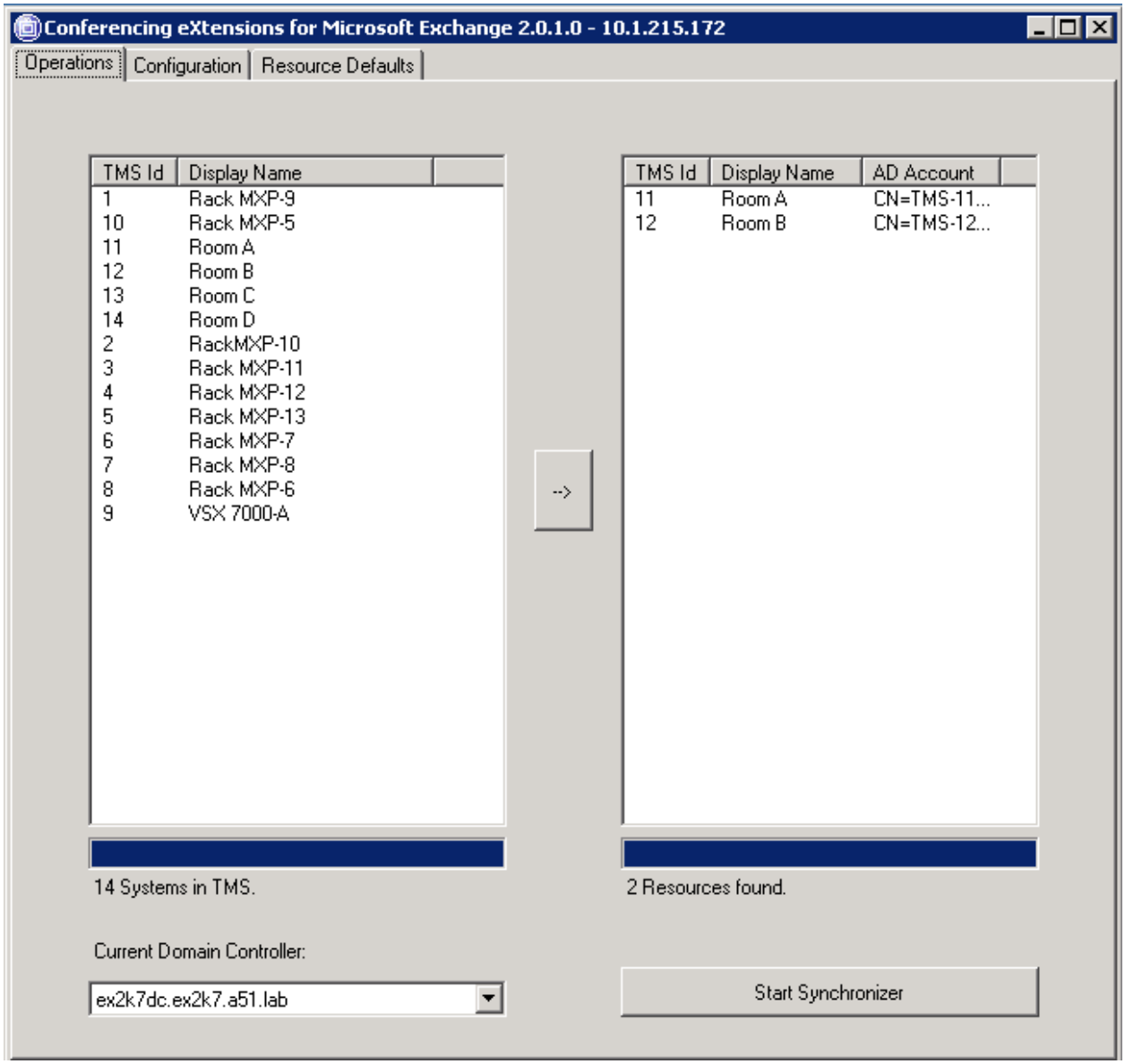
### *Define Calendar Security Groups*

If you intend on granting calendar permissions to groups of users (required if using Direct Resource Booking) you should define the default security groups before continuing so they will be added to all accounts you enable. These permissions also allow users to directly interact with the calendars of resource accounts if desired.

1. Switch to the ***Resource Defaults*** tab.
2. Under ***Resource Calendar Permissions***, use the **Browse** button to select an existing security group from Active Directory for each setting. In the Browse window, there is also an option to create a new security group if needed.
   a. *Editor Permissions* – Members of the specified group will be able to edit meetings in resource calendars created by all users.
   b. *Author Permissions* – Members of the specified group will be able to create meetings in resource calendars, but only edit their own meetings - not those created by other users.
3. Switch back to the ***Operations*** tab when complete to continue.

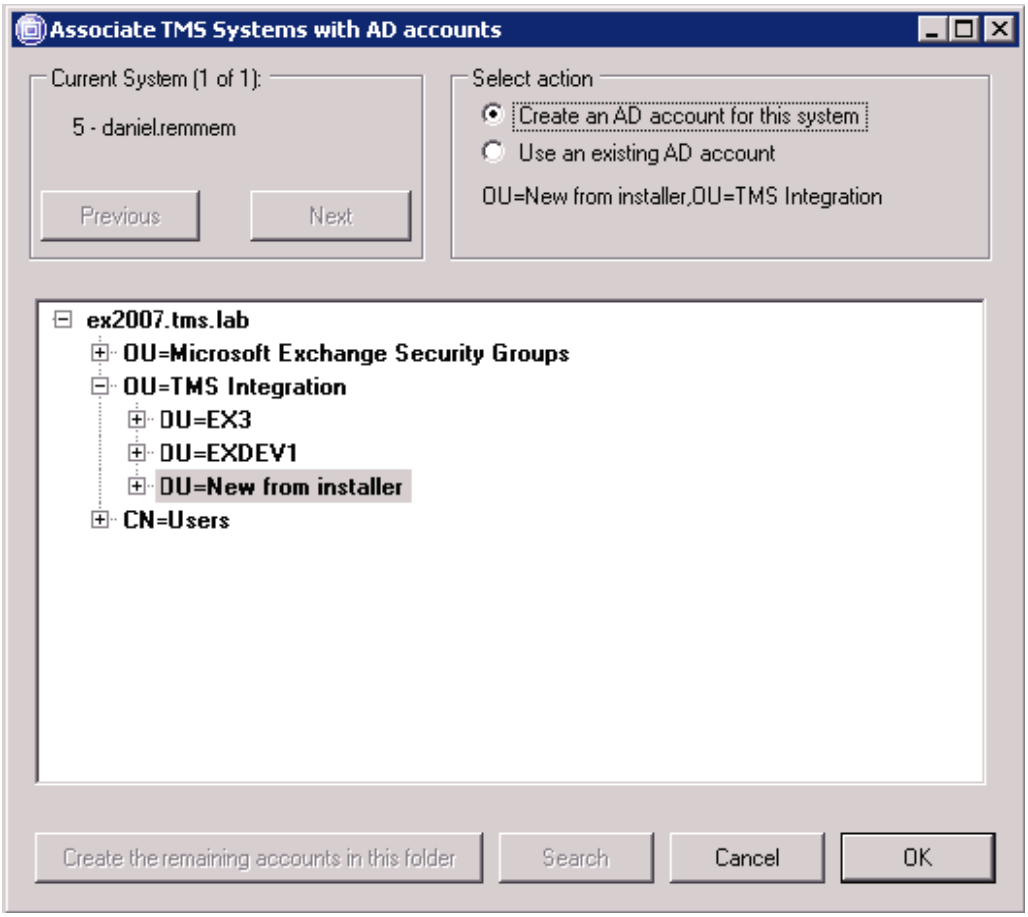
   The initial screen displayed shows an overview of systems found in TMS and any linked accounts in Exchange.



The left hand column represents all endpoints, rooms, and recording devices found in the configured TMS Server. The right hand column lists all Exchange accounts that have been determined to be integrated with TMS via TCX.

Select one or more TMS systems you wish to enable in Exchange from the left hand list. Use the shift or control keys to select multiple systems at once. Click the → button.

A new window appears which walks you through the Active Directory configuration for each selected system.




For each selected system, this dialog walks you through creating a new Active Directory account and mailbox OR associating the system with an existing Active Directory account and mailbox. Use the **Next/Previous** buttons to switch between systems. The current system being configured is displayed in the top left. The dialog allows you to choose an option for each selected system individually. When multiple systems were selected, the **OK** button will be disabled until a choice has been made for each system.

WARNING: Account creation/deletion/changes may take time to replicate through your Active Directory. When changes are made outside of the Configuration Utility, depending on your Active Directory design these changes may take upwards of an hour to replicate across domain controllers. If you experience errors or inconsistencies with account creation, please shutdown the Configuration Utility and allow time for your Active Directory changes to propagate.

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Select the account options for each system as follows.

1. Use the **Next**/**Previous** buttons to select the desired system.

| ALTERNATIVE A | ALTERNATIVE B |
|---|---|
| To create a new account for the system: | To use an existing account |
| Ensure *Create an AD account…* is selected. The center panel displays a list view of your Active Directory's organizational structure. Expand the tree if necessary and highlight the Organization Unit (OU) where the new account should be created. The mailbox and Active Directory user will automatically be created by the utility[3]. If you wish to use these same setting for the remaining accounts to be added, click **Create the remaining accounts** in this folder button, else use the **Next/Previous** buttons to switch to the next system. | This option will reconfigure an existing AD user account and mailbox to be associated with the TMS system. Select *Use an Existing AD Account*. The center panel will show you your domain's organizational structure. Navigate the tree to find the desired AD Account or use the Search feature. Only user accounts that have their mailbox on the local server will be displayed. Click on the user account you wish to associate to this TMS system. |

If an OU has more then 1,000 entries, only the first 1,000 will be displayed. Please use the Search option when OUs are very large.

2. Repeat the above steps using the **Next/Previous** buttons to toggle between the systems until a choice has been made for each system.
3. Click the **OK** button to continue.

In Exchange Server 2003 Installations, the utility will ask you for a password to use for the newly created accounts[4]. The password entered will be used for accounts that are to be created. Marking the **Reset password for all…** checkbox will also set the password for accounts that are being re-used.

The password for resource accounts is not needed by users or in normal use. It is only for administrators that may wish to log into the account/mailbox directly. The resource account passwords can be changed using standard AD tools afterwards without affecting the TCX integration.

[3] The account will be created with the username of TMS-<id> where <Id> is the TMS System ID. The display name of the AD user will be set to the System Name in TMS. The mailbox will be created in the Mail Store designated during installation.

[4] This is only for Exchange Server 2003 Installations – Exchange Server 2007 installations will create an AD account with no password and the user account will be disabled as is normal for resource accounts in Exchange 2007

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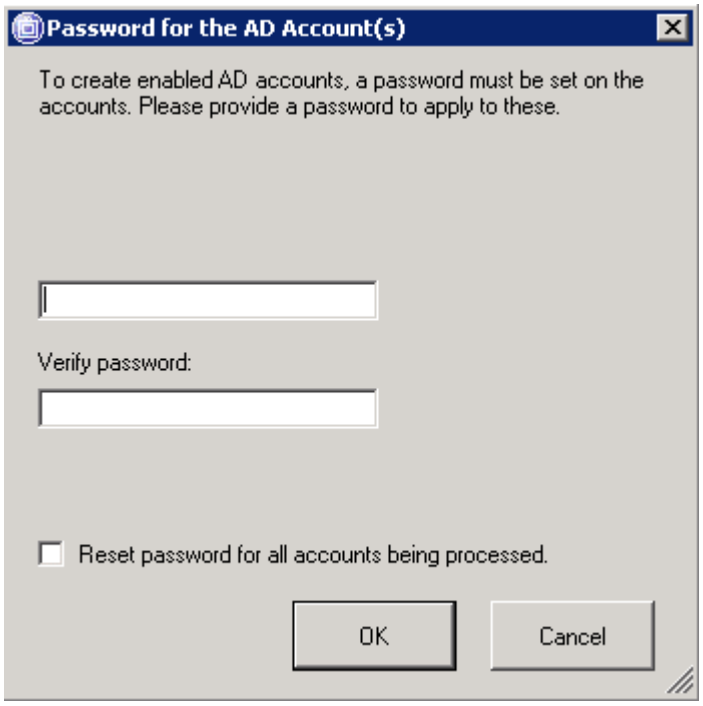
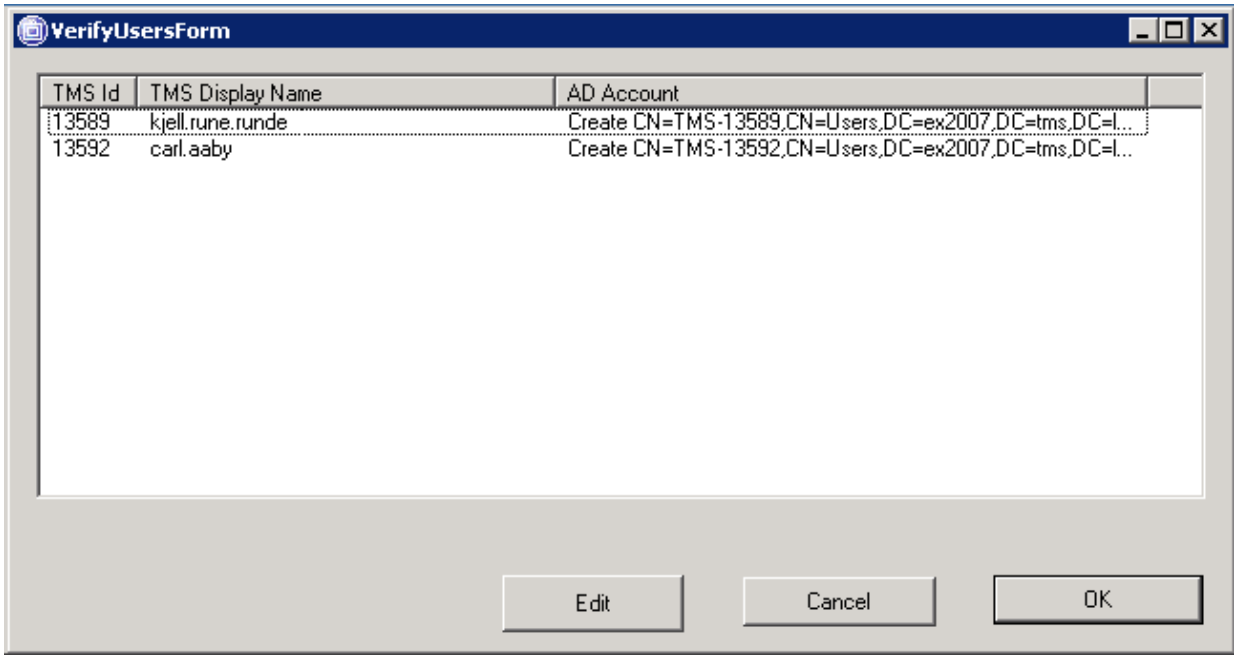

Password for the AD Account(s)
To create enabled AD accounts, a password must be set on the accounts. Please provide a password to apply to these.
Verify password:
Reset password for all accounts being processed.
OK
Cancel

Review selections - After choices have been made for all selected systems, a window will present a summary display of your choices.




If the information is correct, click **OK**, or if alterations are needed click the **Edit** button to return to the previous screen.

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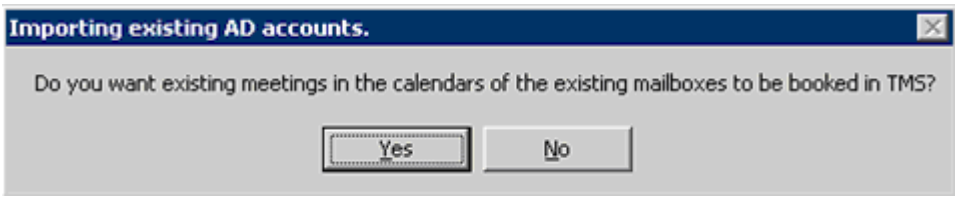
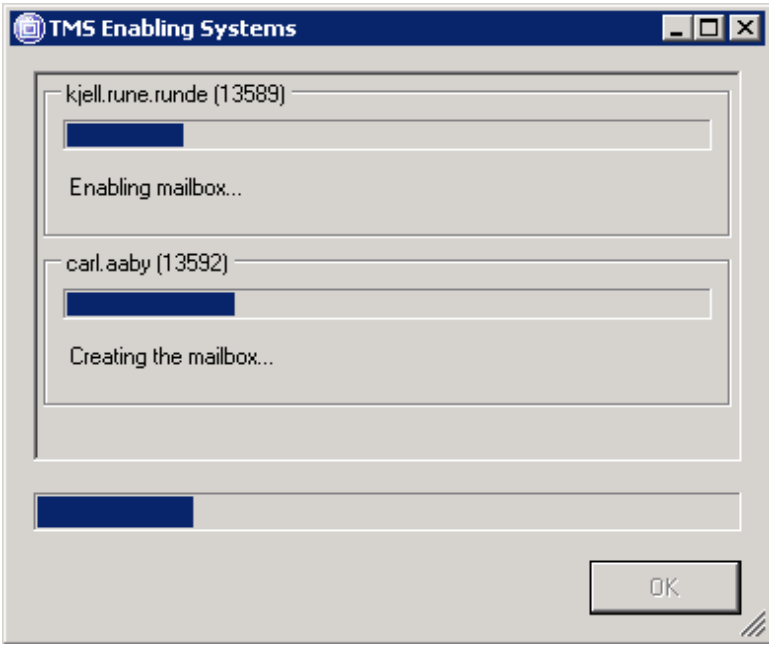
If one or more of the systems imported were associated with existing accounts, you will be asked if existing meetings events from the accounts' Calendars should be imported into TMS. This ensures the resources' calendars and TMS are in synch.


Importing existing AD accounts.
Do you want existing meetings in the calendars of the existing mailboxes to be booked in TMS?
Yes
No

Clicking **Yes** will cause all existing bookings in the Resources' calendars to be booked in TMS. Clicking **No** will skip this step. If there are any issues booking an existing meeting, the meeting's organizer will receive an email detailing any actions necessary.

Meetings with no end date can not be booked in TMS and will not synchronize to TMS. After TCX is installed, any meetings of this type should be edited using Outlook to a new meeting with a fixed end-date.

The configuration tool will now perform the tasks as instructed, and a status screen shows the progress of the individual systems and the overall progress.




Note: This process can take some time depending on the number of systems you are importing and design of your Active Directory.

When complete, click the **OK** button and the Operations tab will be displayed with the newly added systems in the right-hand column.

Once all systems have been enabled in Exchange, continue to the next section to start synchronizing TMS and Exchange.

## Starting the Synchronizer

The Synchronizer is an Integration component that runs on the Exchange Server that is responsible for keeping the Exchange calendars up to date with bookings and changes made in TMS.

The synchronizer is setup by the Installer but is idled in new installations until the administrator has enabled all the systems in Exchange using the Configuration Utility. Once all systems have been

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enabled in Exchange using the Configuration Utility, the Synchronizer must be started. In upgrade situations, the Synchronizer's state is saved, but is idled until it is activated again.

You can identify if the Synchronizer has been started by checking the button in the ***Configuration Utility > Operations*** tab. The button will be labeled **Restart Synchronizer** if the Synchronizer is already running. If so, no further action is necessary and you can continue to the next section. If the button says **Start Synchronizer** or **Reactivate Synchronizer**, the Synchronizer must be started.

For new installations, to start the Synchronizer:

1. Open the Configuration Utility.
2. In the Operations tab, click the button labeled **Start Synchronizer** or **Reactivate Synchronizer.**
3. You will be prompted if with a warning regarding starting the Synchronizer before systems are configured. Click **Yes** to start the synchronizer.

The Synchronizer will work in the background to update the Exchange Calendars of integrated systems with all meetings that exist for those systems in TMS. This process can take several hours when the Synchronizer is initialized in installations with lots of scheduling activity.

The resource account's calendars will not have complete free/busy information for all future meetings until the Synchronizer has processed all meetings and caught up, but you do not have to wait for this to be complete before continuing the installation and using the product. The TCX integration will properly reject new meeting requests that would conflict even if the free/busy and resource calendars are not up to date yet.

Administrators should continue to the next section to complete the setup of their permissions and controls they want in place for resource scheduling.

# Configure Security Settings and Tuning

Once installed, administrators should review any security restrictions they wish to implement with booking of the integrated resource accounts. How permissions are controlled depends on what type of Exchange Server TCX is installed onto. Guidance is provided below, broken down based on the version of Exchange you have installed onto.

## Exchange 2003 Installations

For Exchange 2003 installations, access to booking the resources depends on which booking model is selected.

In the synchronous mode, booking will be limited to users who are members of the User group assigned Author access in the Configuration Utility. In new installations, this group may be empty and users will not be able to book these systems until this group is populated. Configure this group's membership in Active Directory using the AD Users & Computer snap-in as desired to enable users to start booking.

In the asynchronous mode, booking access is controlled by Delivery Restrictions where you can define who can or can not send email to the resource account. By blocking mail sent by a user, that user can not send an invite to the account and attempt to book it. The User Group defined in the Configuration Tool has no impact on Delivery Restrictions and should not be used to try to limit booking access when Asynchronous Booking is enabled. Members of the defined User Group will still have access to the calendar directly so be aware of potential mismatches. For more information on configuring Delivery Restrictions please see the Microsoft article – How to Set Restrictions on a User http://technet.microsoft.com/en-us/library/aa998925(EXCHG.65).aspx

Membership in the security group defined as Editor access have the additional ability to edit existing meetings in the resource's calendar, including meetings created by other users. Configure this group's membership in Active Directory using the AD Users & Computer snap-in as desired.

Users may have to log out and back in before group membership changes are effective on their client computer.

### Exchange 2007 Installations

For Exchange 2007 installations, access to booking the resources is controlled via Resource Booking Policies. The default setup on accounts will have AllBookInPolicy set to 'true' meaning all users can book the resource as long as the request falls within the restrictions defined on the resource account.

New accounts created by the Configuration Utility will have the default Microsoft Exchange restrictions enabled. These will limit how a user can book a meeting from Outlook, but will not limit bookings made from TMS or directly in the Resource's calendar. Administrators may need to tune these restrictions to their desired values to control booking by Outlook users.

Administrators may configure the standard CalendarSettings of the Exchange resource accounts to their desire, including setting up Delegates and configuration for handling In-Policy and Out-of-Policy requests. Administrators should not modify the following settings and leave them as configured by the Configuration Utility:

| MAILBOXCALENDARSETTING PARAMETER | CONFIGURED VALUE |
|---|---|
| AutomateProcessing | AutoAccept |
| Identity | <domain>/TMS-<systemId> |

For more information on Managing Resource Scheduling Parameters see:

- Managing Resource Scheduling - http://technet.microsoft.com/en-us/library/aa996338.aspx
- Set-MailboxCalendarSettings - http://technet.microsoft.com/en-us/library/aa996340.aspx

## Optional - Deploying the TANDBERG Form

TANDBERG supplies a custom appointment form that can be use by Outlook clients to gain additional functionality when creating or editing meetings such as specifying conference parameters and adding external participants. This form replaces the default Appointment form used in the Outlook client. Use of the form is optional. If you do not wish to make the form available to your clients, you can skip this chapter. Making the form available can also be added any time in the future to your installation.

It is recommended to place the TANDBERG form under the Organizational Forms Library in order to be made available for all Outlook clients in your network. If an Organizational Forms Library already exists on your Exchange server, this one can be used. If not, one has to be created before importing the custom form. The advantage of using the Organizational Forms Library is it allows you to make the form available to all users with a single process and allow future updating of the form automatically for users.

Alternatively, users can load the form manually per Outlook client, by performing the steps in the **Configuring clients to use the Form** section and specifying a local copy of the VideoConference.oft file. This method skips the Organizational Form Library and Publishing, so any future updates to the form must be manually completed by repeating the steps to specify the form to use.

Deploying the form is broken into three phases:

- Creating the Organization Forms Library.
- Publishing the Form.
- Configuring clients to use the Form.

Each should be completed for new installations that wish to use the TANDBERG form. For customers upgrading TCX without changing your Exchange Server version, only the Publishing the Form section is necessary. The other sections were completed in your previous installation.

### Creating the Organization Forms Library

If using Exchange 2007, the installation steps have changed significantly due to Public Folder changes in Exchange 2007 and will vary based how Exchange was installed. Please chose one of

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the two sections below that describes your Exchange environment - **Exchange Server 2003 Only Environments** or **Exchange Server 2007 Environment (Mixed or Pure**)

### *Exchange 2007 Environments (Mixed and Pure)*

Exchange Server 2007 Environments are not dependant on Public Folders and therefore may not have them installed and therefore lacking the existing infrastructure to support the Organizational Forms Library. The presence of existing Public Folders in Exchange 2007 environments depends on how Exchange 2007 was installed and will alter the steps required to be able to publish the TANDBERG form.

If Exchange Server 2007 was installed along side or into an Exchange Server 2003 organization, the first 2007 server would have had a public folder database created and configured to replicate with the existing Public Folders. In these cases, the existing Public Folder Database can be used, and replication should already be configured between the Public Folder Databases in Exchange 2003 and Exchange 2007.

In these environments, if an Exchange 2003 Server is available, an administrator can follow the instructions in the section below for Exchange Server 2003 organizations and perform the steps on that server. Forms will replicate to the Exchange 2007 Server and therefore be available to all Outlook versions.

If using an Exchange 2003 server is not an option, use the steps provided in **Appendix - Creating the Organization Forms Library in Exchange Server 2007** for instructions on creating the Organizational Forms Library in this type of environment..

### *Exchange Server 2003 Only Environments*

Be sure you are logged to the Exchange Server with full Exchange administrator rights.

1. Open the Exchange System Manager.
2. Go to *Administrative Groups* and then select the group containing the Exchange Server on which you just installed the Exchange Integration component. Normally this would be the *Administrative Groups/First Administrative Group*.
3. Select *Folders*[5] followed by *Public Folder*. Right-click on *Public Folder* and select **View System Folders**.

[5] 'Folders' may reside on root level if the Exchange System Manger is not configured to show administrative groups

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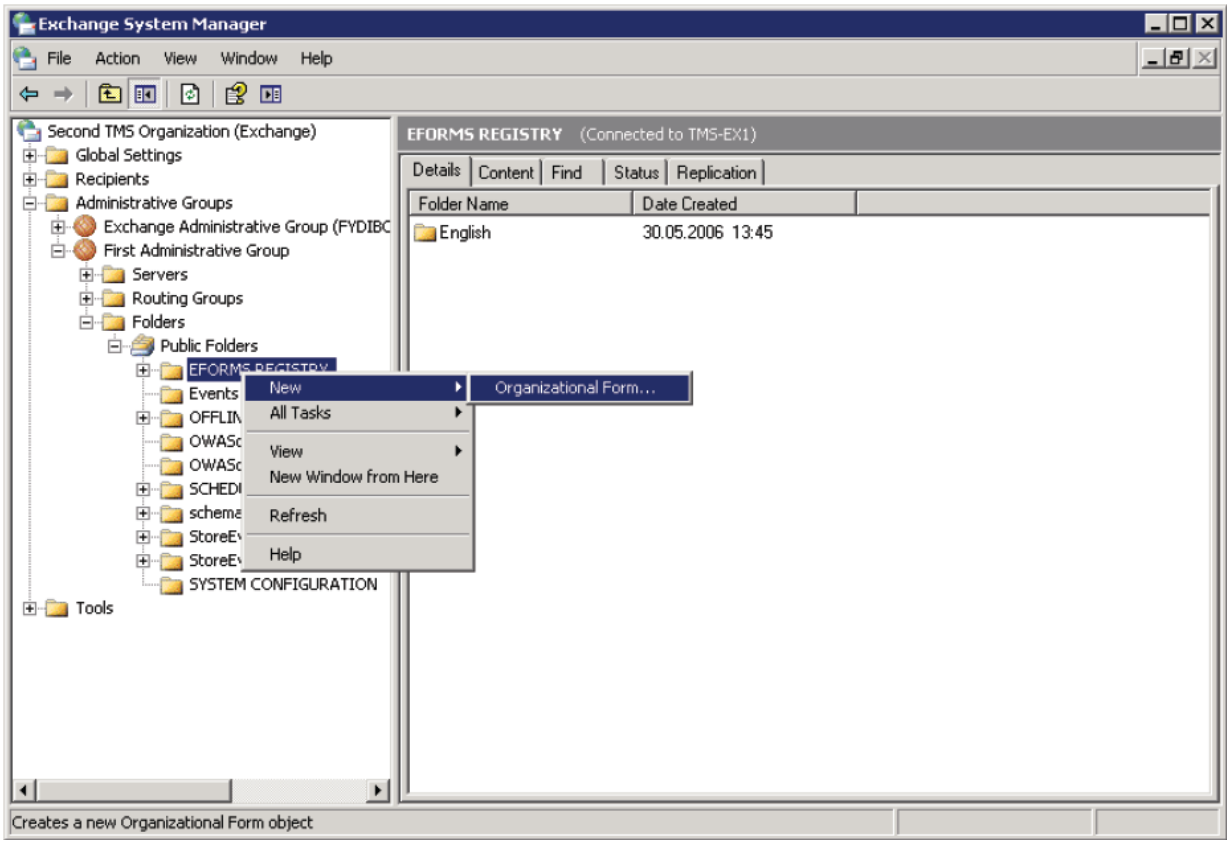
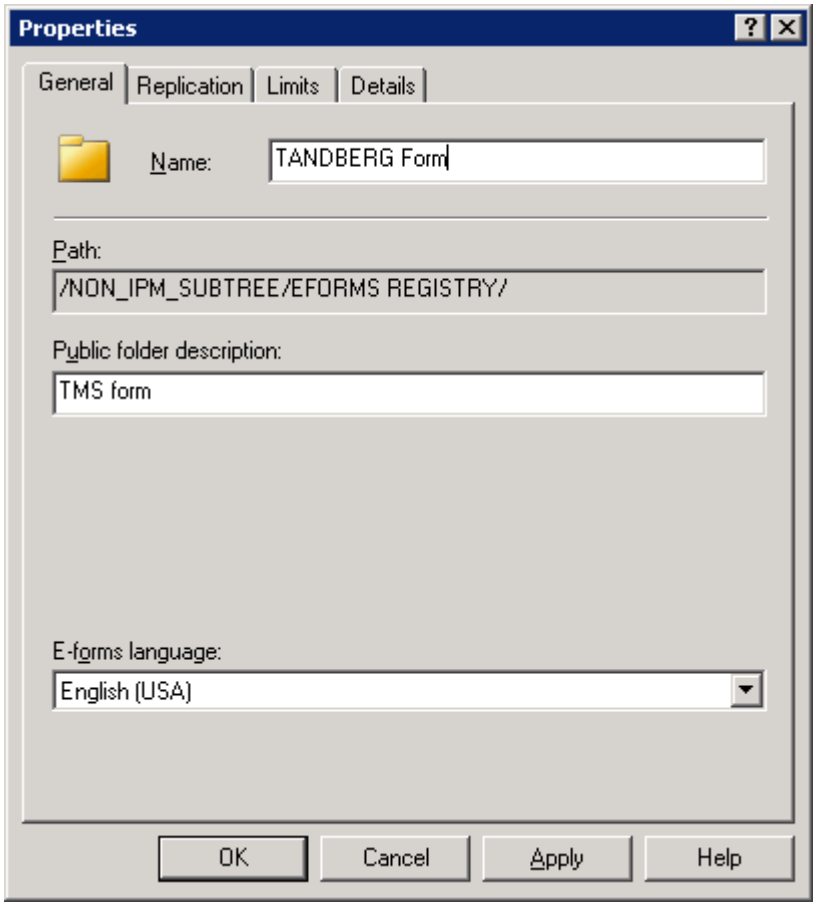
4. While viewing the System Folders, right-click on *EFORMS Registry* and select **New > Organizational Form.**



A property page for the new Organizational Form library will be displayed.




5. Fill in a suitable name of your choice and (optional) description of the Organizational Forms Library.
6. Choose **English (USA)** as E-forms language.
7. Press **OK** to save Organizational Forms Library.

Note: If the *English (USA)* language is not listed, a Forms Library for that language already exists and another can not be created. In this scenario, you must use the existing folder to publish the form. Right-click on any folder listed under EEFORMS REGISTRY,select **Properties** and find which is using English(USA) and use that existing folder for the remaining steps.

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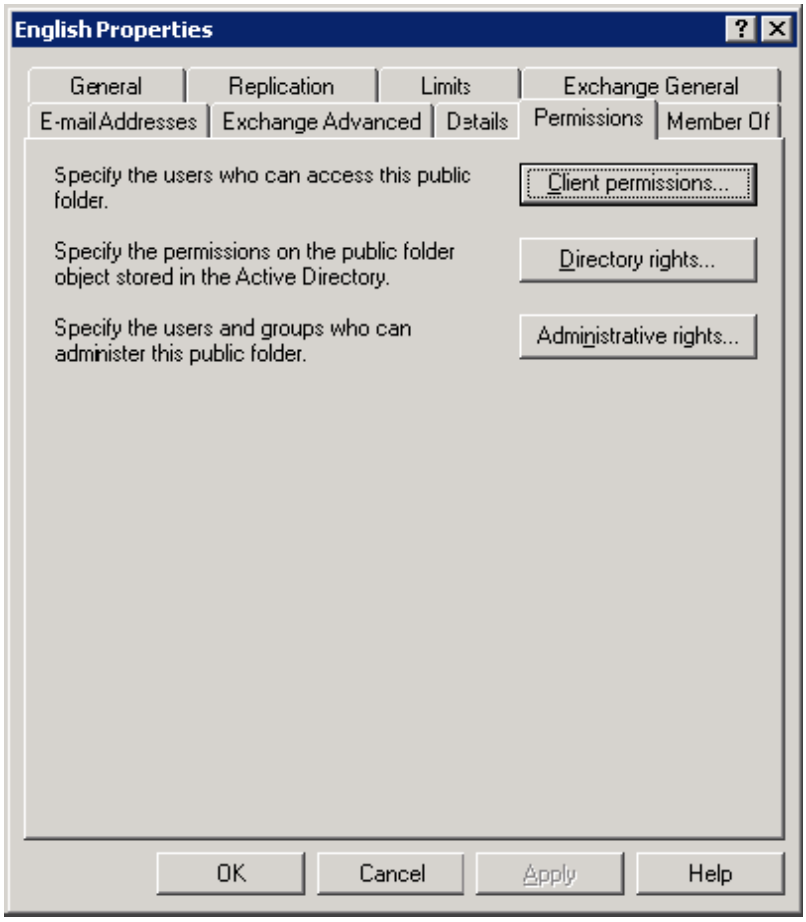
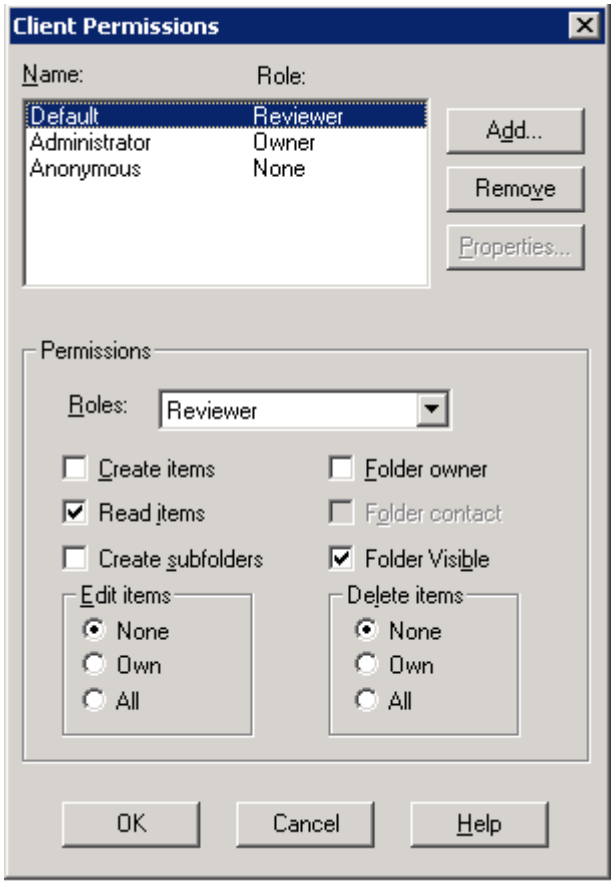
8. In order to publish the TANDBERG form in the Organizational Forms Library, an Outlook user needs to be granted “owner” permissions to the Organizational Forms Library. This is done by right-clicking on the created folder, select **Properties**. In the pop-up window, select the *Permissions* tab.



9. Click the **Client Permission** button and a pop-up window appears




It is recommended only to give one single end user the 'owner' permission (preferably an administrator), and use this user for publishing the form. Users you wish to have access to the form need a minimum of 'Read' permission granted. By default, users will have this read permission by the Default entry being granted the 'Reviewer' role.

10. Using the Client Permissions window, add a user and set its role to 'Owner' as necessary and add any desired User Groups with 'Reviewer' Role if necessary.
11. Click **OK** to save the permissions, and **OK** again to save the properties of the new Organizational Form.

## Publishing the TANDBERG Form

Once the Organizational Forms Library is in place, the TANDBERG form is 'published' using an Outlook client logged in as the user you assigned 'owner' permissions to the Form Library.

On the server where the Integration was installed, locate the 'Video Conference Form' folder created in the Installation path, normally `C:\Program Files\TANDBERG\Conferencing eXtensions for Microsoft Exchange\Video Conference Form` .In this folder is the file **VideoConference.oft** .

1. Copy the VideoConference.oft file using the method of your choice to a client computer with Outlook installed.
2. Using Outlook, log in as the user you assigned 'owner' permission to.

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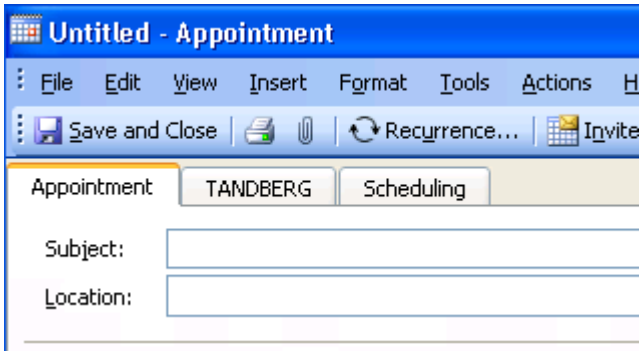
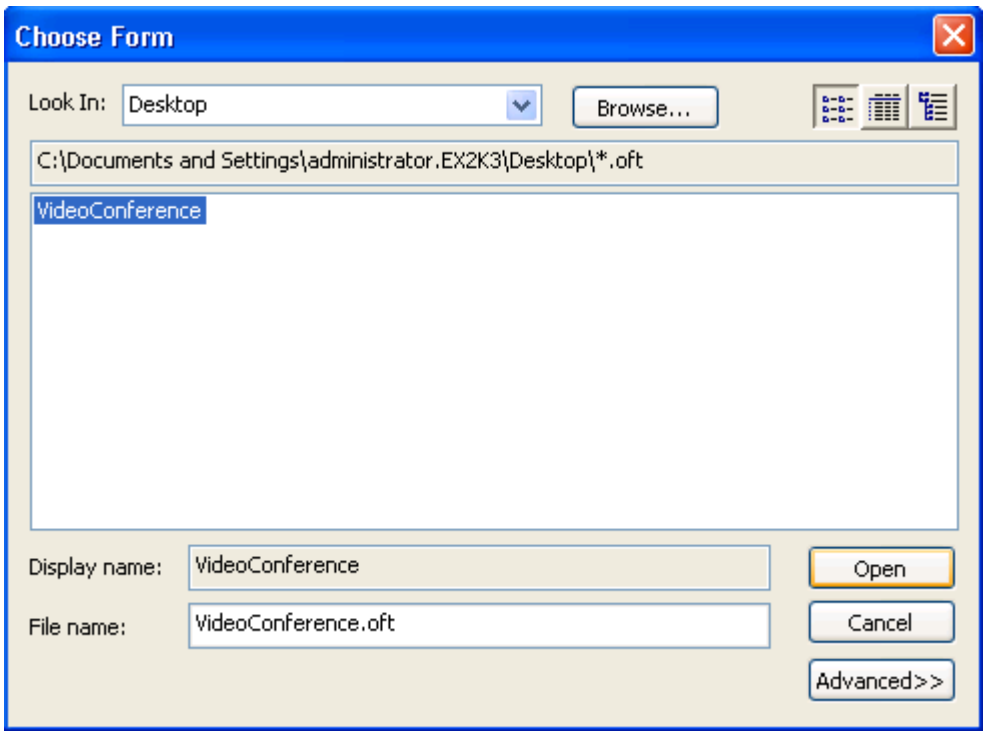
3. Locate the OFT file on the computer, and double-click it to open it. It will open a form in Outlook that looks like the standard Appointment form except there is an extra tab labeled *TANDBERG*




If you get a warning saying the custom form could not be opened, or the form does not display the TANDBERG tab the form must be opened using an alternative method due to changes in Outlook security

Alternative Method to Open Form

a. Close the Appointment form if it is currently open
b. In Outlook, Select from the ***File Menu > New… > Choose Form…***
c. Change the *Look In* dropdown menu to *User templates in File System*
d. Click the **Browse** button to locate the folder where you copied the OFT file to and click **Ok.**




e. VideoConference should be seen in the list, highlight it and Click **Open**
f. You can now continue with the normal publishing steps

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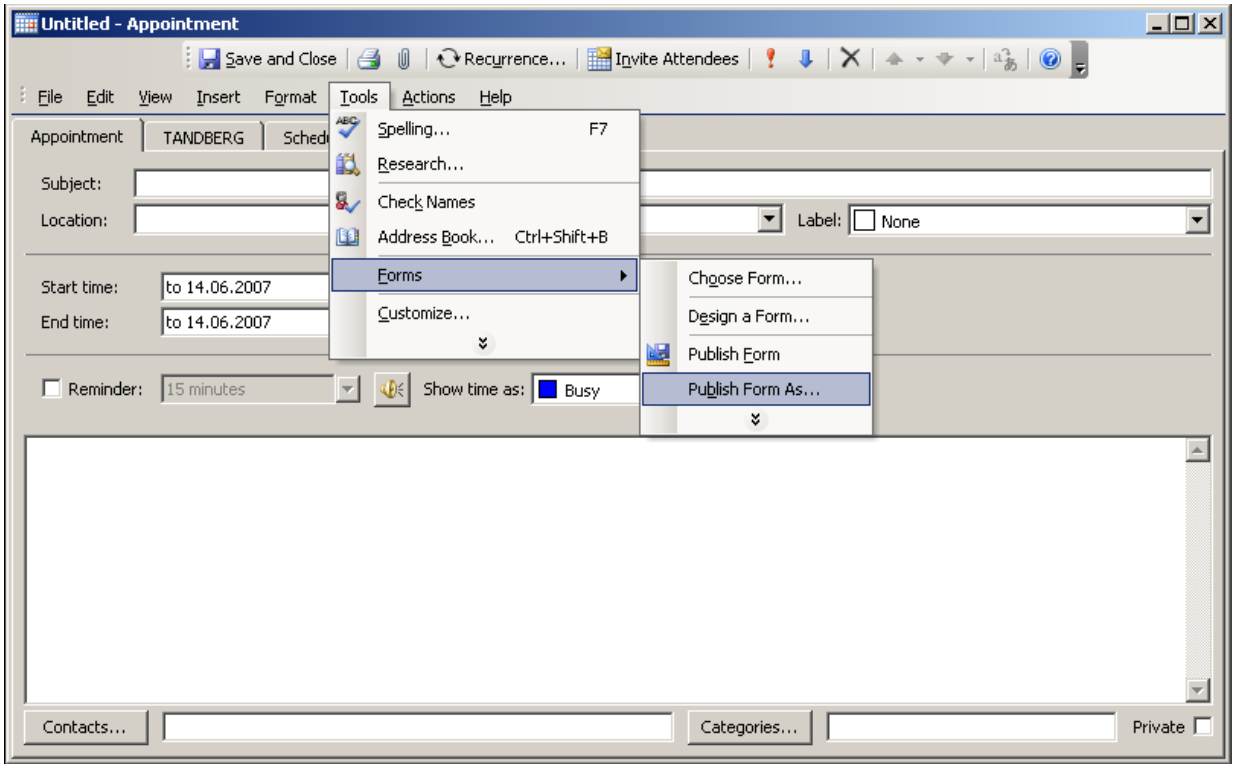
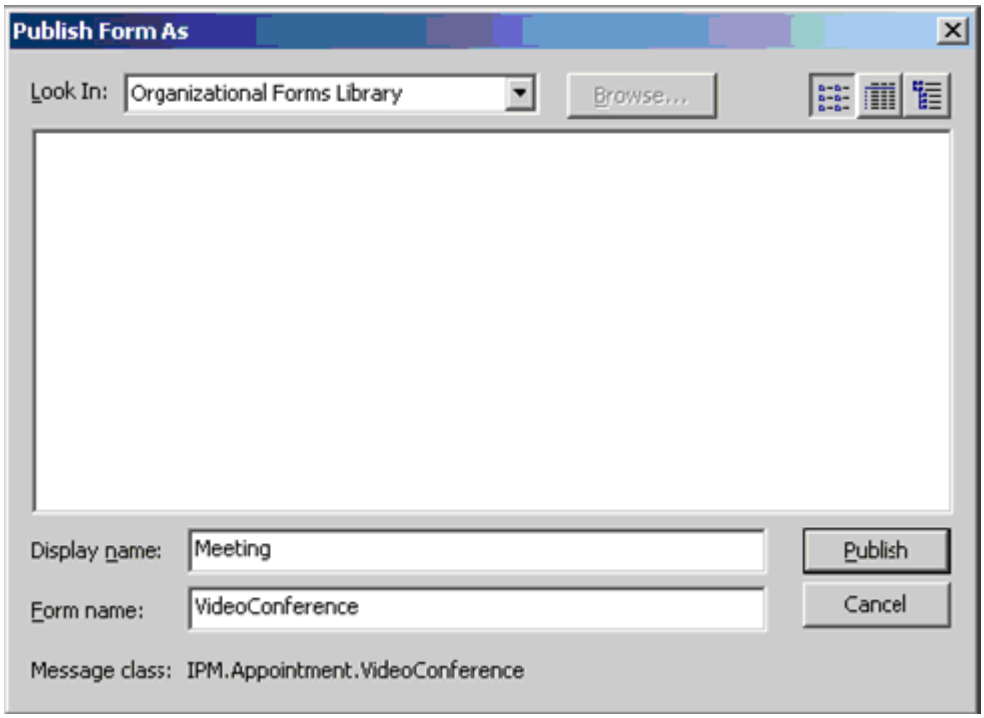
4. Select from the Menu bar, ***Tools > Forms > Publish Forms as ...*** as shown in the picture.




5. In the new window, change the *Look In* dropdown menu to *Organizational Forms Library*
6. Enter names in the two fields exactly as described below (case sensitive):
    - Display name: **Meeting**
    - Form name: **VideoConference**
    - The screen should look like the image below. Click Publish when complete




The form is now published and available for users to choose as their appointment form.

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## Configuring clients to use the Form

Publishing the form makes it available to users, but does not automatically force their Outlook client to use the form. Configuring Outlook to use the form is a one-time client configuration that can be done by each user, or through making changes to the Microsoft Windows Registry. Registry changes can be done automatically via methods such as Group Policy.

**Reference Material for Registry and Bulk Changes**

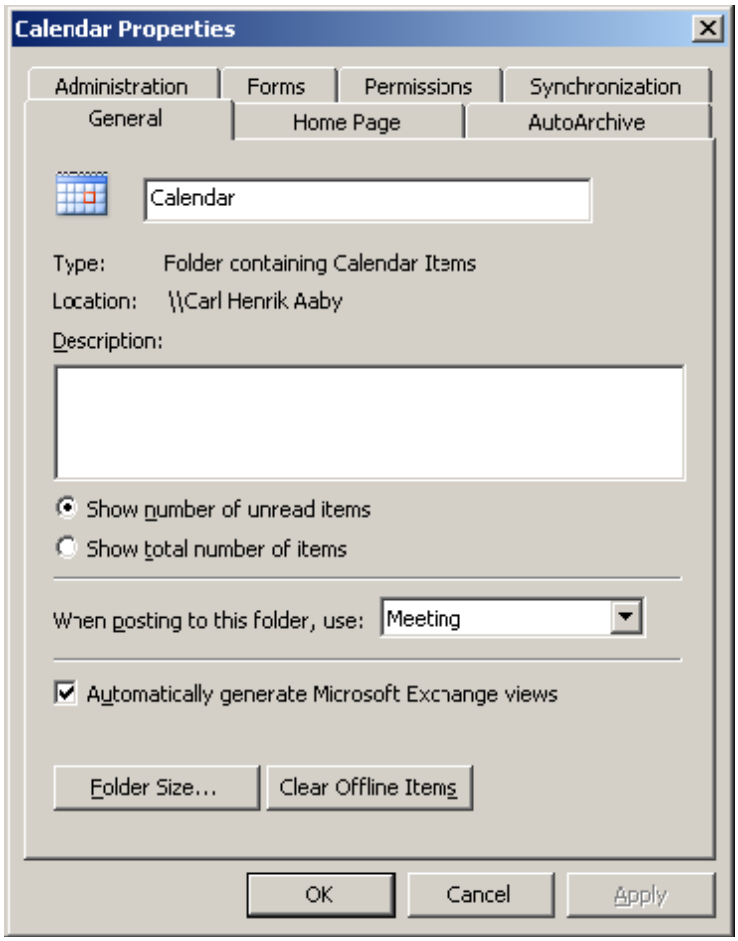
Microsoft utility to create registry keys to change the default form - http://support.microsoft.com/kb/241235/EN-US/

3rd party article about the Microsoft Utility[6] - http://www.outlookexchange.com/articles/Santhosh/outlookforms.asp

**Manually configuring clients to use the form**

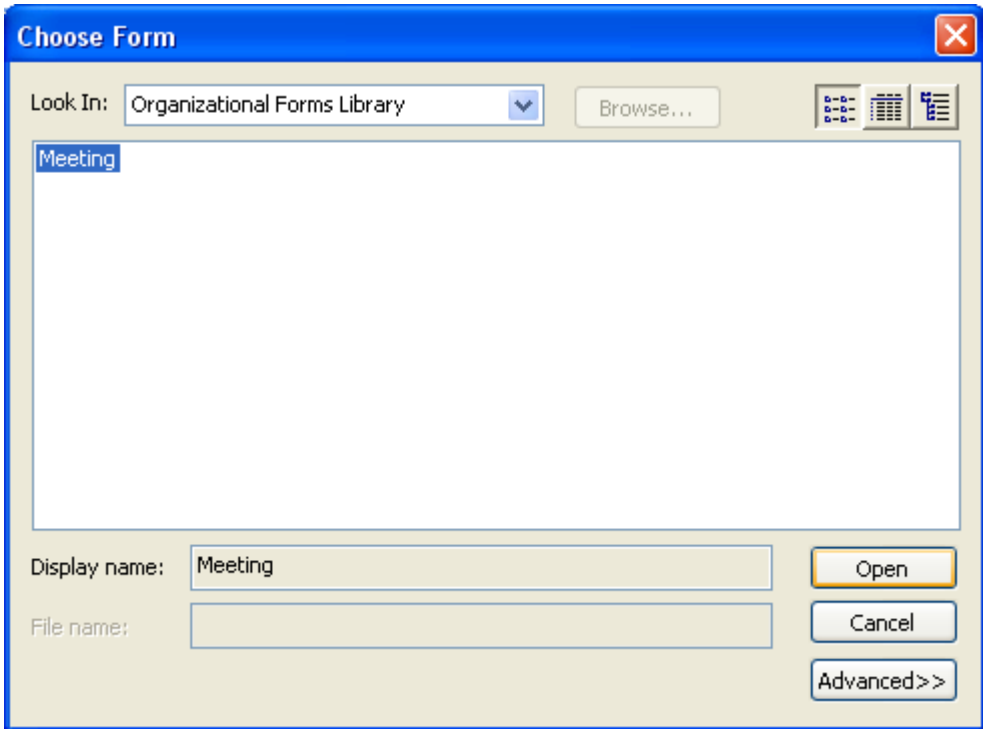
To have a user manual configure their client, have each user complete the following steps:

1. Open your Outlook Client
2. From the Folder View, Right-click the Calendar icon and select **Properties**.




3. The Calendar Properties window will open with the General Tab selected
4. Select **Forms…** from the drop-down menu for the *When posting to this folder, use* option
5. A Pop-Up will open. Ensure the ***Look In*** drop-down menu, has *Organizational Forms Library* selected

[6] The examples in this document reference other forms, the TANDBERG form replaces the IPM.Appointment form




6. An entry will be displayed named **Meeting**. Select it and click the **Open** button
7. You will be returned to the Calendar Properties page. Click **Ok** to save your changes

The client will now use the TANDBERG form for all Calendar actions and have the TANDBERG tab available when creating new booking requests.

Because Outlook security does not allow previewing of custom forms, when using the Reading Pane in Outlook, calendar events can not be previewed if the entry was created using the TANDBERG form. Users must open the item to view it.

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# Uninstall/Modify/Repair Installation

## Uninstall

To uninstall the product, select *Uninstall TANDBERG Conferencing eXtensions for Microsoft Exchange* from the product's group in the start menu on the Exchange Server or use ***Add/Remove programs*** from the Control Panel of the server.

Confirm that you want to uninstall the product from the window that is displayed and the product will uninstall itself.

The program will leave its log directory, registry keys, and associated accounts in place to accommodate future installations or upgrades.

### Complete Removal of Product

If an administrator wishes to remove all elements of the installation, the following additional steps may be performed after uninstalling the product.

- Delete the Installation Directory and Logs Directory.
  (Default: `C:\Program Files\TANDBERG\Conferencing eXtensions for Microsoft Exchange\logs`)
- Delete the Registry key at:
  `HKEY_LOCAL_MACHINE\SOFTWARE\TANDBERG\TANDBERG Management Suite Exchange Integration`
- Delete the TMS-Service user from Active Directory and it's associated mailbox
- Delete the tmsconfuser user account from the Windows Server hosting TMS and the user profile in TMS.
- Delete any resource accounts and their mailboxes as desired. Existing accounts can continue to be used for Exchange-Only booking if desired.

Note: Due to Active Directory replication, a new installation of TCX should never be attempted immediately after removing or modifying service or resource accounts. Sufficient time must be given to allow Active Directory replication to complete before attempting to install TCX again.

## Modify

Given the standard options of the Installation software, it is possible to select Modify as an option if the setup file is opened again after the product is installed. However, since there are no options to install only individual elements of the product, this choice does not allow you to make any changes to the product.

## Repair

If a problem is suspected with the server software itself, a repair is possible. The repair process will copy all needed files to the server ensuring all files are correct and in the proper location.

To repair the installation, start the original TCX setup file on the server if available. If not, the TCX installer is located on the TMS installation media. Open the index page using browse.bat and click the link to **Install TANDBERG Conferencing eXtensions for Microsoft Exchange** to start the installation program.

Note: There are separate installers for 64bit installations and 32bit installations – Please use the appropriate link for your server type.

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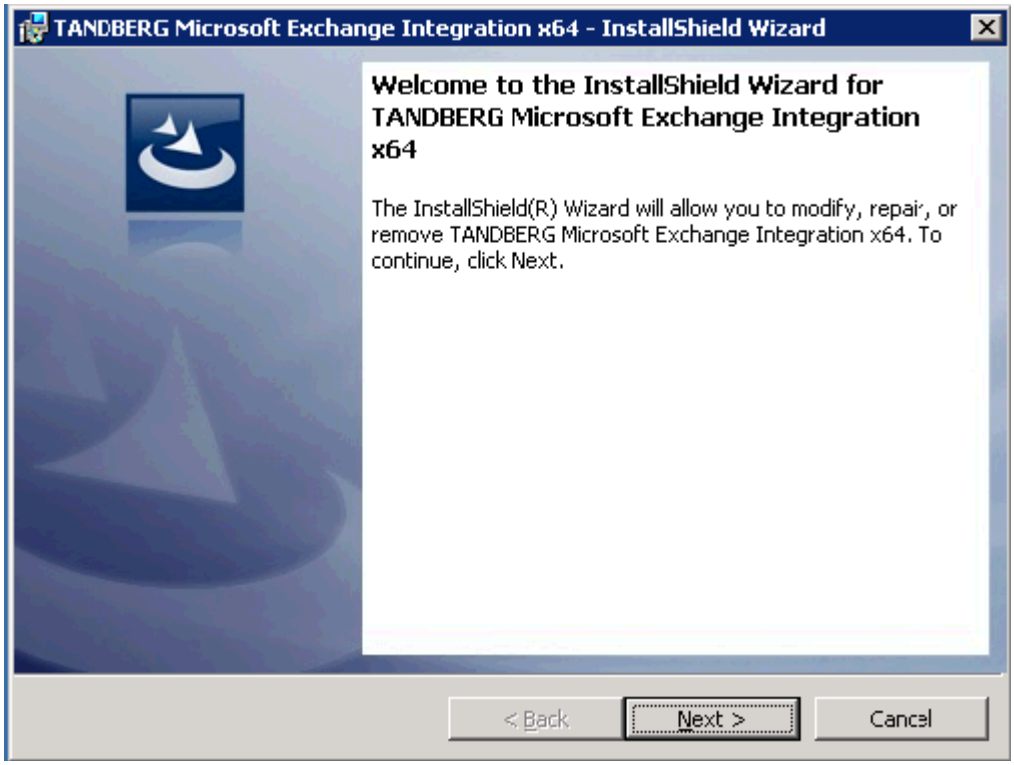
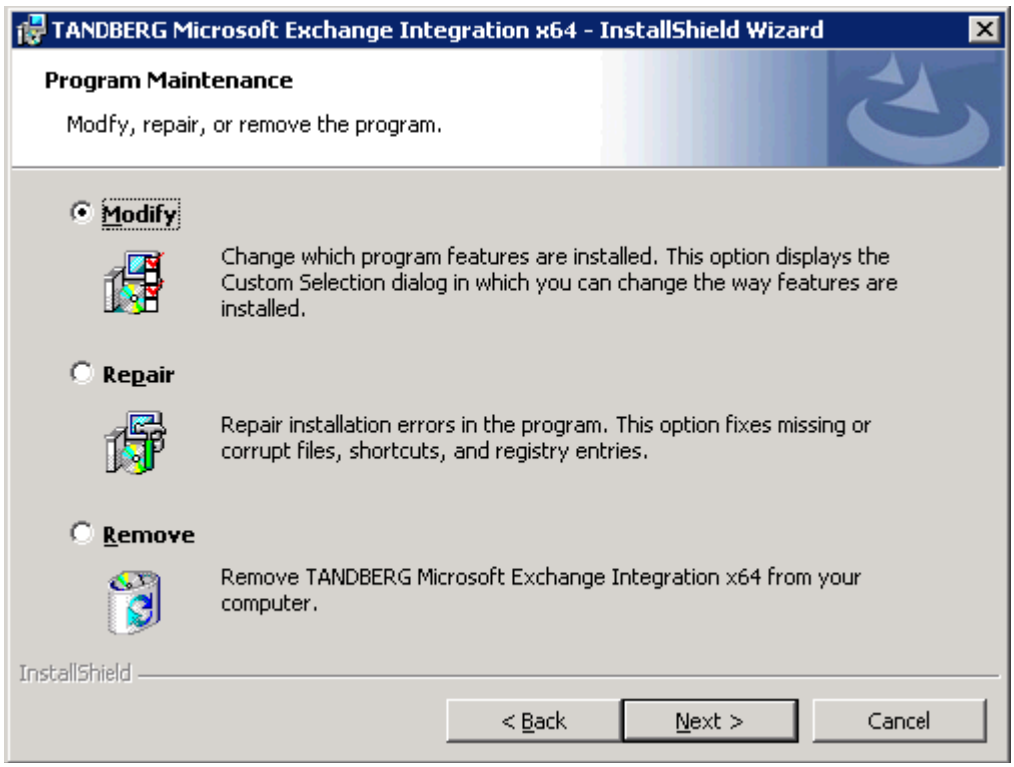

TANDBERG Microsoft Exchange Integration x64 - InstallShield Wizard
Welcome to the InstallShield Wizard for TANDBERG Microsoft Exchange Integration x64
The InstallShield(R) Wizard will allow you to modify, repair, or remove TANDBERG Microsoft Exchange Integration x64. To continue, click Next.
< Back
Next >
Cancel

Click **Next**, and from the option menu, select **Repair**.


TANDBERG Microsoft Exchange Integration x64 - InstallShield Wizard
Program Maintenance
Modfy, repair, or remove the program.
Modify
Change which program features are installed. This option displays the Custom Selection dialog in which you can change the way features are installed.
Repair
Repair installation errors in the program. This option fixes missing or corrupt files, shortcuts, and registry entries.
Remove
Remove TANDBERG Microsoft Exchange Integration x64 from your computer.
InstallShield
< Back
Next >
Cancel

Click **Next** and step through the wizard to complete the repair process. After the repair is done, the Configuration Utility will start automatically.

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# Notes for Upgrading from the TANDBERG Microsoft Exchange Integration Product

The TCX product supersedes the previous TANDBERG Microsoft Exchange Integration product. Starting with TCX v2 software, TCX can also be used as an upgrade for existing Exchange 2003 installations.

There are some differences in how the TCX product operates compared to the previous product and this section will outline the necessary additional information for administrators to complete an upgrade and highlight differences in operation and user interaction so they can plan their upgrades accordingly.

If you are also changing the version of Exchange Server you are installing onto (from Exchange 2003 to an Exchange 2007) please jump to the **Upgrading to TCX and Migrating to Exchange 2007** section.

# Upgrading to TCX on Exchange 2003

## Installation Changes/Requirements

If operating in a segregated AD and Exchange admin organization, do not rely on previous versions of the Installation Alternatives documentation for Microsoft Integration in regards to the TCX product. This information is now integrated into this manual and you should reference the Appendixes for details regarding using TCX in this type of environment.

Prior to installing the TCX product, you must uninstall the existing TANDBERG Microsoft Integration product. Open the Add/Remove Programs control panel, find the TANDBERG Integration product, and click **Remove** to start the uninstall process.

Once the uninstall is complete, you may be prompted to restart the server. If you wish to avoid this restart, you can manually stop all Integration components before starting the Uninstall process. Ensure the Configuration Tool is not running. Then using Microsoft Management Console (MMC) stop the TANDBERG Synchronizer Windows Service under Services, and using the Component Services Snap-in, expand the Local Computer, and shutdown the 'TANDBERG' COM+ Application by right-clicking on it and selecting **shutdown**. With these elements stopped, you should not be prompted to restart the server when the Uninstall is complete.

Note: During the uninstall process you will have the option to 'remove all users, groups, and settings'. TANDBERG recommends you do NOT use this option when performing an upgrade. If you chose to use the remove option, TANDBERG recommends you wait 24hrs before attempting to perform the TCX installation to allow the mailbox and Active Directory changes to fully propagate.

Once the uninstall is complete, you may be prompted to restart the Server. If necessary, restart the server.

You can now follow the standard TCX installation instructions with the following exceptions:

- The existing Exchange Service user will automatically be detected and re-used. The administrator will be given the standard choices to reset the password or supply a new one. For the TMS-side service account, when prompted, use the *Let the installer create a service account if needed* option. This will cause the service user on the TMS server to be reused, and have its password and Service flag in TMS reset as part of the installation.
- In the *Configure Service Account on the TMS Server* step, be sure to select *Let the installer create a service user if needed*. The installer will detect the previously used tmsconfuser account on the TMS server and re-initialize it for the new installation.
- The first time the Configuration Utility is opened, the utility will detect problems with the existing resource accounts. This is normal as the sinks were disabled when the previous product was

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uninstalled. The configuration tool can automatically update the accounts as needed; simply select **Yes** when prompted to correct the issues with the accounts.

The remainder of the upgrade to TCX is completed by following the normal TCX installation steps. Your previously configured resource accounts will carry over to the new installation automatically.

Note the following details regarding the installer and initial configuration:

- Your previously configured resources accounts will appear in the right column as integrated with Exchange automatically and require no further configuration.
- The installer will re-use the previously defined Log directory for diagnostics logging. Post installation you should update this to point to the new product's installation folder or another of your choosing. Changing the log directory is done using the Configuration Utility under the *Configuration* tab.
- The TCX product no longer creates an Address List for integrated systems. This address list was always optional and could be removed post-installation. Address lists can still be created by the Exchange Administrator if desired to list all integrated systems by using filters.
- If the TANDBERG supplied custom form was used previously, it should be updated with the most recent form. Be sure to complete the **Publishing the TANDBERG Form** section of the installation instructions to ensure your users have the most recent version of the form.

### Configuration Tool Changes

The view and layout of the configuration tool has changed compared to the previous product, but the fundamentals concepts required to add/remove/test resource accounts have not changed. The tool has a new layout using Tabs that replaces the previous used **Advanced** button. Please see the **Configuration Tool Reference** for details on all of the features and use of the utility.

### User Booking/User Experience Changes

The basic booking principles used by end-users have not changed from the previous product. Users should be able to immediately use scheduling with the new product with no need for retraining or additional assistance. The new TANDBERG form may have additional options compared to previous forms, but its overall use is unchanged. Please see the **End-User Interface Reference** section regarding End-user operation.

## Upgrading to TCX and Migrating to Exchange 2007

If operating in a segregated AD and Exchange admin organization, do not rely on previous versions of the Installation Alternatives documentation for Microsoft Integration in regards to the TCX product. This information is now integrated into this manual and you should reference the Appendixes for details regarding using TCX in this type of environment.

Since Exchange 2007 is not installed in-place over an existing Exchange 2003 server, these instructions assume you will install TCX on a different Exchange server then what was used previously. Migration of an organization from Exchange 2003 to 2007 is out of the scope of this document and will only cover moving the Integration product.

Due to changes in the resource booking models in Exchange 2007 vs. previous versions, the Asynchronous Booking model is the default, recommended booking model for Exchange 2007 installations. The instructions and notes below are written assuming you will be using Asynchronous Booking. Please see the **Explanation of Resource Booking Models** section for further details or notes on using Direct Resource Booking.

Prior to installing the TCX product, you must uninstall the existing TANDBERG Microsoft Integration product. On the existing server, open the Add/Remove Programs control panel, find the TANDBERG Integration product, and click **Remove** to start the uninstall process.

Once the uninstall is complete, you may be prompted to restart the server. If you wish to avoid this restart, you can manually stop all Integration components before starting the Uninstall process. Ensure the Configuration Tool is not running. Then using Microsoft Management Console (MMC) stop the TANDBERG Synchronizer Windows Service under Services, and using the Component Services Snap-in, expand the Local Computer, and shutdown the 'TANDBERG' COM+ Application by right-clicking on it and selecting shutdown. With these

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elements stopped, you should not be prompted to restart the server when the Uninstall is complete.

Note: During the uninstall process, you will have the option to 'remove all users, groups, and settings'. TANDBERG recommends you do NOT use this option when performing an upgrade. If you chose to use the remove option, TANDBERG recommends you wait 24hrs before attempting to perform the TCX installation to allow the mailbox and Active Directory changes to fully propagate.

Once the uninstall is complete, you may be prompted to restart the Server. If necessary, restart the server.

To reuse the existing resource accounts, the accounts' mailboxes must be moved to a database on the new target Exchange 2007 Server.

- Use the Exchange Management Console or shell to move the mailboxes. See this Microsoft article for assistance on moving mailboxes for Exchange 2007

Example: Using Exchange Management Shell to move a single mailbox.

```
Move-Mailbox contoso\john -TargetDatabase TargetDatabase "First Storage
Group\Mailbox Database" -SourceMailboxCleanupOptions DeleteSourceMailbox
```

- Next the mailboxes must be converted to the Exchange 2007 version of a Resource mailbox. Example using the Exchange Management Shell:

  ```
  set-Mailbox -Identity:ResourceName -Type:Room
  ```

- Be sure the Active Directory user accounts for the resource accounts are in the same domain as the Exchange Server where TCX will be installed.
- For security purposes, you may disable the Active Directory login for each resource account if desired. Using the AD Users and Computers snap-in, set each resource account to *Disabled*.

You can now follow the standard TCX installation instructions with the following exceptions:

- The existing Exchange Service user will automatically be detected and re-used. The administrator will be given the standard choices to reset the password or supply a new one. For the TMS-side service account, when prompted, use the *Let the installer create a service account if needed* option. This will cause the service user on the TMS server to be reused, and have its password and Service flag in TMS reset as part of the installation.
- In the *Configure Service Account on the TMS Server* step, be sure to select *Let the installer create a service user if needed*. The installer will detect the previously used tmsconfuser account on the TMS server and re-initialize it for the new installation.
- After installing TCX, the first time the Configuration Tool is opened, the tool will detect problems with the existing resource accounts. This is normal as the sinks were disabled when the previous product was uninstalled. The configuration tool can automatically update the accounts as needed; simply select **Yes** when prompted to correct the accounts.

The remainder of the upgrade to TCX is completed by following the normal TCX installation steps. Your previously configured resource accounts will carry over to the new installation automatically.

Note the following details regarding the installer and initial configuration:

- Your previously configured resources accounts will appear in the right column as integrated with Exchange automatically and require no further configuration.
- The TCX product no longer creates an Address List for integrated systems like the previous product. This address list was always optional and could be removed post-installation. Exchange 2007 by default has an 'All Rooms' address list and additional lists can also be created by the administrator.
- If the TANDBERG supplied custom form was used previously, it should be updated with the most recent form. Be sure to complete the Publishing the TANDBERG Form section of the installation instructions to ensure your users have the most recent version of the form.

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- When using Asynchronous Booking (recommended), calendar permissions are no longer required to book a system, so the security groups used by the previous product are no longer required. Access to booking rooms is controlled by the settings defined on the resource's mailbox and calendar. The existing security groups can be removed, or may be re-used if you wish to allow users to be able to open the calendars of resources automatically. Be sure to set the groups on the *Resource Defaults* tab in the Configuration Utility if you plan on reusing the groups.

## Configuration Tool Changes

The view and layout of the configuration tool has changed compared to the previous product, but the fundamentals concepts required to add/remove/test resource accounts have not changed. The following changes are noteworthy:

- The tool has a new layout using Tabs that replaces the previous used **Advanced** button.
- At this time, the Configuration Utility does not display the last received email notification like the previous product.
- When creating Resource Accounts, the utility no longer sets a password on newly created Active Directory accounts and the accounts are set to 'disabled' in Active Directory.
- Resource Calendar Permissions Groups are now optional and empty by default. If added, users in these groups will be given permissions to newly created resource account's calendars which allows the user to open the Calendar directly in their own client.
- Choosing to enable asynchronous booking is no longer available. Asynchronous Booking is the default in the Exchange 2007 resource model and is the preferred model over direct resource booking.

See the **Configuration Tool Reference** for details on all of the features and use of the utility.

## User Booking/User Experience Changes

The basic booking principles used by end-users have not changed from the previous product except how meetings are saved. The new TANDBERG form may have additional options compared to previous forms, but its overall use is unchanged.

If the Direct Resource Booking model was used before, users would get a pop-up if their meeting was successfully booked and if the booking failed, they could not save their meeting request. With the Asynchronous Booking model, the users will immediately be allowed to save the meeting, and shortly after will receive a meeting accept/reject notice from each resource booked in the meeting. Please see the **End-User Interface Reference** section regarding End-user operation.

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# USER GUIDE

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*Editing Meetings ..... 48*
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# End-User Interface Reference

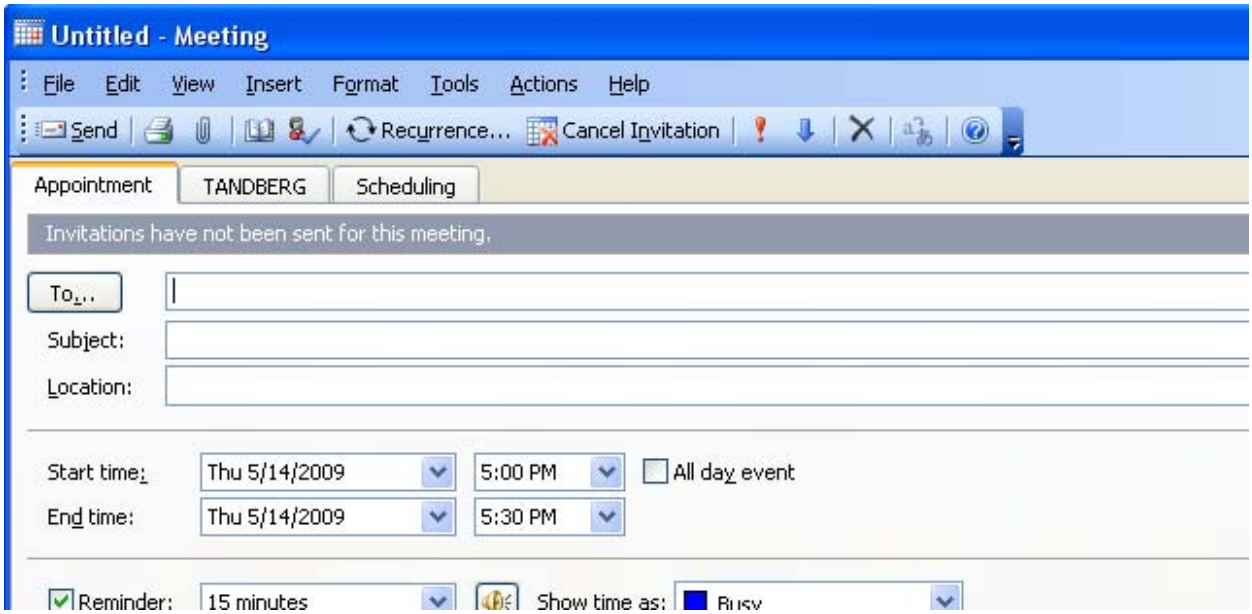
This section will provide details on how users schedule resources and the features available in the TANDBERG custom form.

Booking meetings in Outlook that include video conferencing resources is done using the same steps as booking traditional meeting room/resource. This commonality allows users too quickly and easily pick-up scheduling their video conferences using Outlook. This section will provide a brief primer on the basics of creating meetings using Outlook, followed by details on using the optional TANDBERG form. As the booking process varies slightly if the Integration is using the Direct Resource Booking model, creating a new meeting is explained separately for each model.

## Creating a New Meeting Using Outlook (using Direct Resource Booking)

The first step is to create a new meeting invitation. A new invitation can be started via the **New** button in your toolbar, from the File Menu under ***File > New*** or by double-clicking a time-slot in your calendar.

A meeting request is similar to an appointment, except a meeting request includes other people or resources besides you.




If you do not see the **To**: line and button, you have opened an Appointment Request. Switch to a Meeting request by simply clicking the **Invite Attendees** button in the toolbar.

Using the drop-down menus, set the Start and End time for your meeting. If your meeting will be a recurring meeting, click the Recurrence button to set the options for the meeting.

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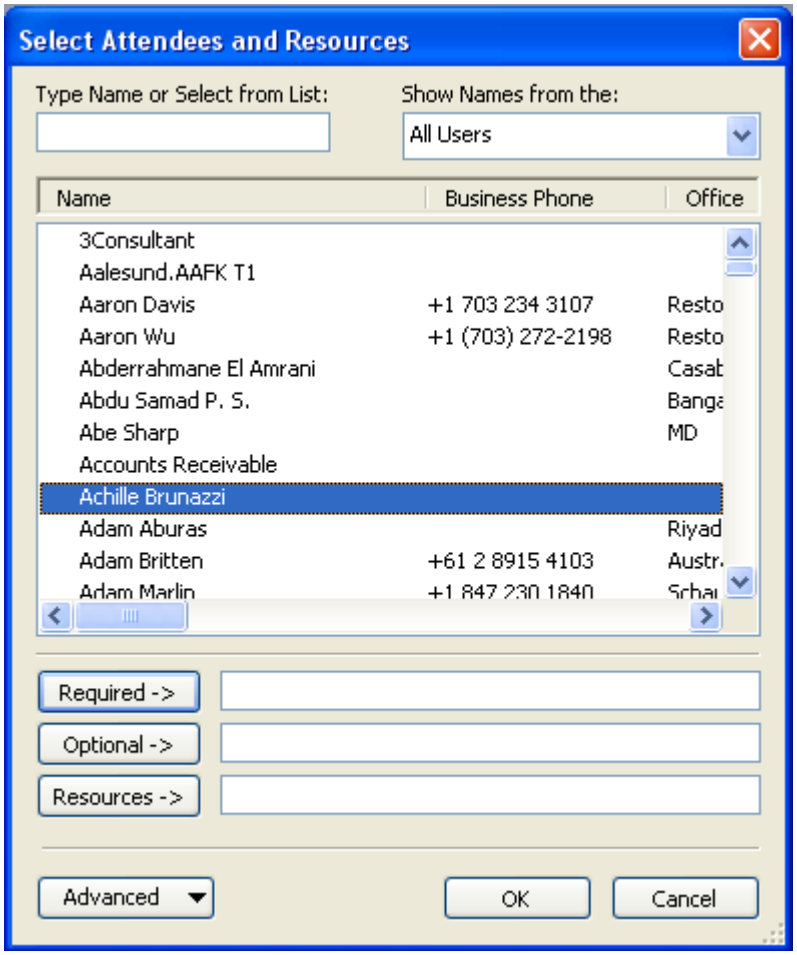
Click the **To:** button to invite attendees.




Using the **Show Names from the** drop-down, you can choose from various Address Books created by the administrator to browse through.

Chose the people you wish to invite to the meeting by selecting their name, and clicking the **Required** or **Optional** buttons. Optionally you can type their name into the fields directly.

To book a room or video system, do the same as above to select a room\system but put them in the **Resources** field. You can mix and match people and rooms in a meeting request, including multiple rooms/systems. People go into **Required** or **Optional** fields, rooms/systems go in the **Resources** field. There is no need to try to book MCUs or Gateways, as they will be handled automatically by TMS.

Click **OK** to save the participants and return to the Meeting Request.

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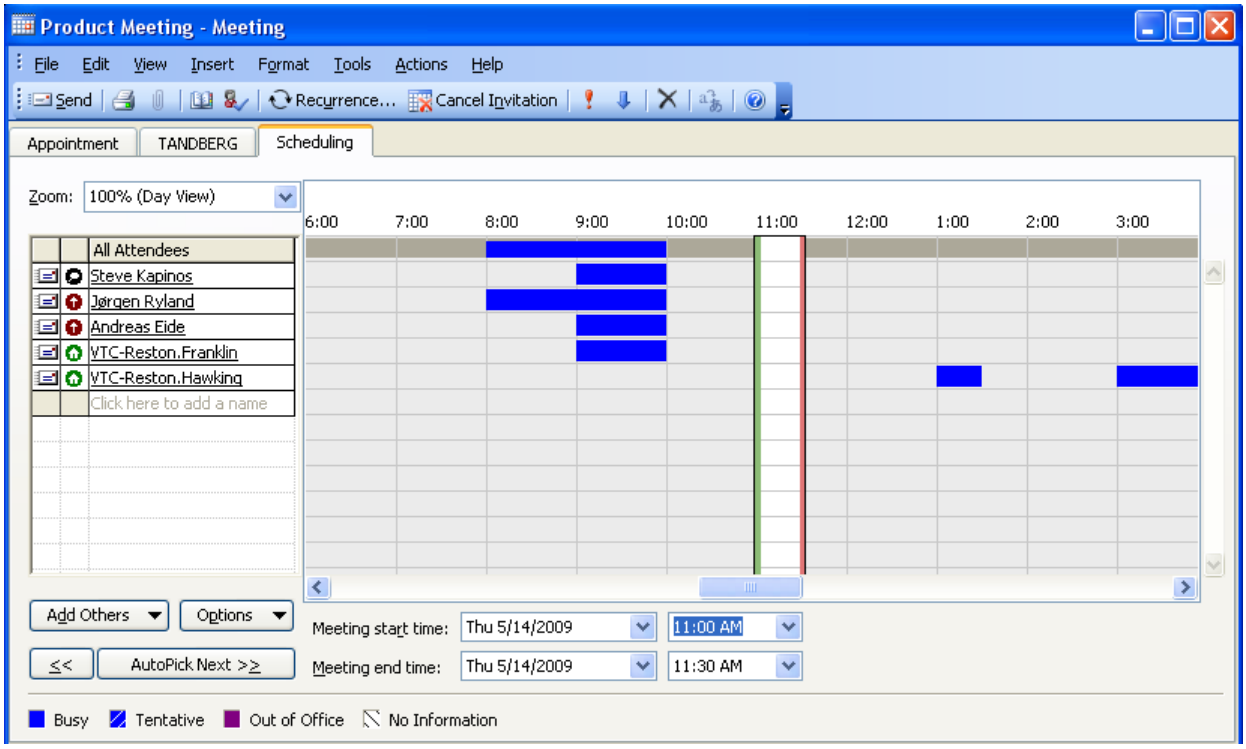
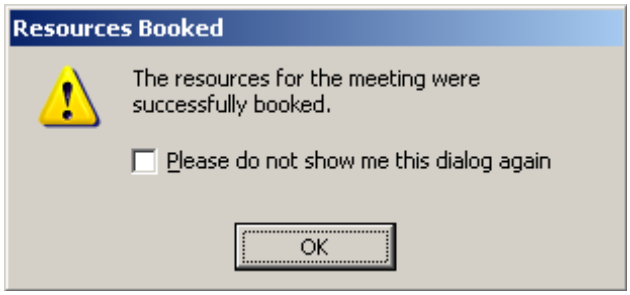
By clicking on the **Scheduling** tab, you can view the free/busy information for all of the meeting's invitees




Ensure everyone is free during the requested time period, or adjust the meeting's start and end times as necessary.

When finished, press the **Send** button to save the meeting and send out the invitations.

Outlook will pause here as it attempts to save the meeting in the calendars of the rooms\systems you invited. If successful you will get a pop-up window




Note: It is recommended that you do NOT check the checkbox to hide this message

This message means the rooms\systems have been successfully booked and the meeting has been saved in your calendar. People you have invited to the meeting have been sent an invite and can respond individually to your request.

Shortly after saving the meeting, you as the meeting organizer will get an email from the TCX Integration providing you with the details about your scheduled video meeting, including dialing information. You can copy this information into the meeting details and send out an update to invitees if desired. Conference settings such as bandwidth, encryption, etc will be set using the default parameters defined by the Conference Settings in TMS defined by the TMS administrator.

If for some reason the meeting request is rejected by one of the rooms\systems, the pop-up message will not appear, the meeting request will stay open, and you will get an email from the TCX Integration providing additional details on why the meeting was rejected. Make adjustments to your meeting as necessary and click **Save** to try to rebook your meeting and the same saving process will repeat.

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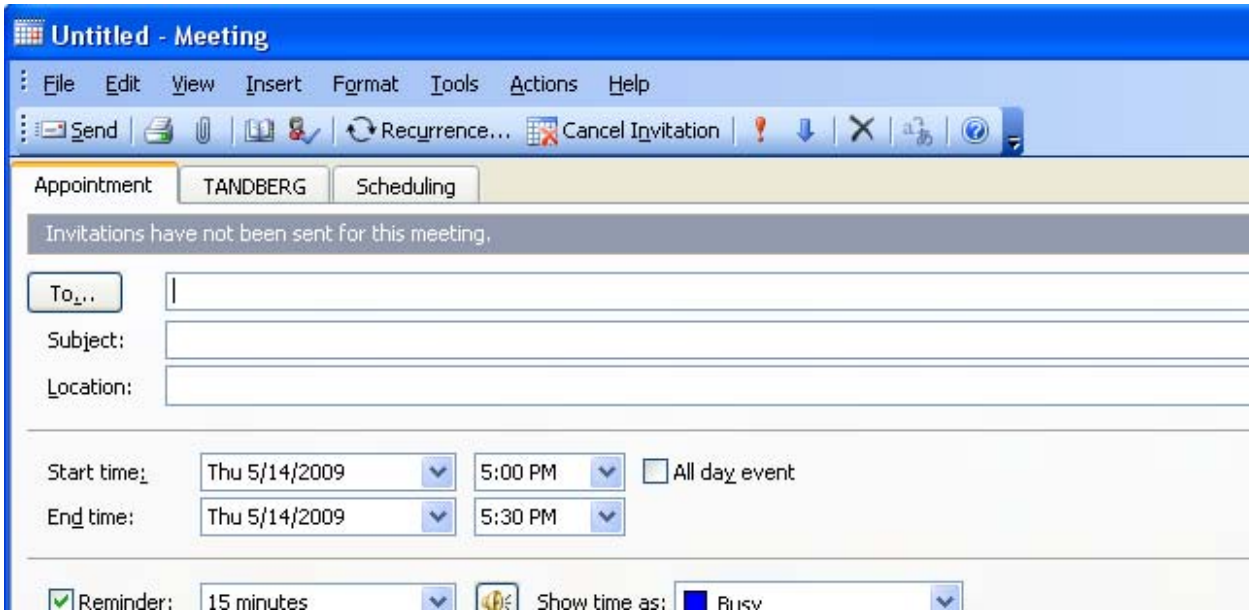
# Creating a New Meeting Using Outlook (using Asynchronous Booking)

The first step is to create a new meeting invitation. A new invitation can be started via the **New** button in your toolbar, from the File Menu under ***File > New*** or by double-clicking a time-slot in your calendar.

A meeting request is similar to an appointment, except a meeting request includes other people or resources besides you.




If you do not see the **To**: line and button, you have opened an Appointment Request. Switch to a Meeting request by simply clicking the **Invite Attendees** button in the toolbar.

Using the drop-down menus, set the Start and End time for your meeting. If your meeting will be a recurring meeting, click the **Recurrence** button to set the options for the meeting.

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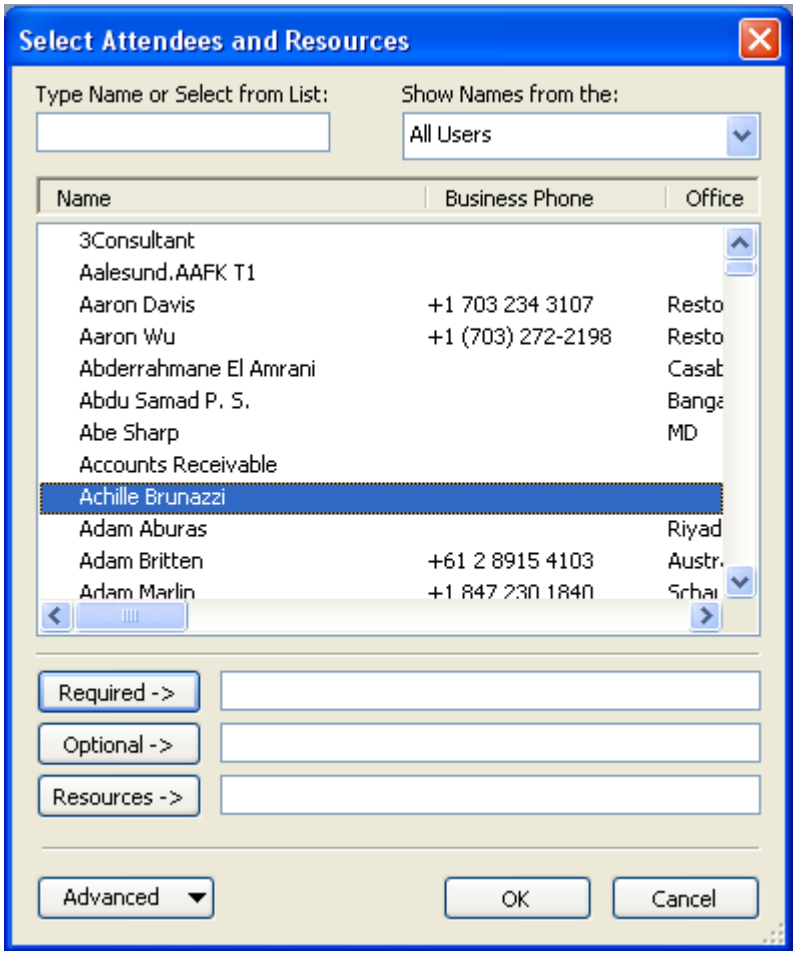
Click the **To:** button to invite attendees.




Using the **Show Names from the** drop-down, you can choose from various Address Books created by the administrator to browse through.

Chose the people you wish to invite to the meeting by selecting their name, and clicking the **Required** or **Optional** buttons. Optionally you can type their name into the fields directly.

To book a room or video system, do the same as adding people to select a room\system but put them in the **Required** field. You can mix and match people and rooms in a meeting request, including multiple rooms/systems. There is no need to try to book MCUs or Gateways, as they will be handled automatically by TMS.

Click **OK** to save the participants and return to the Meeting Request.

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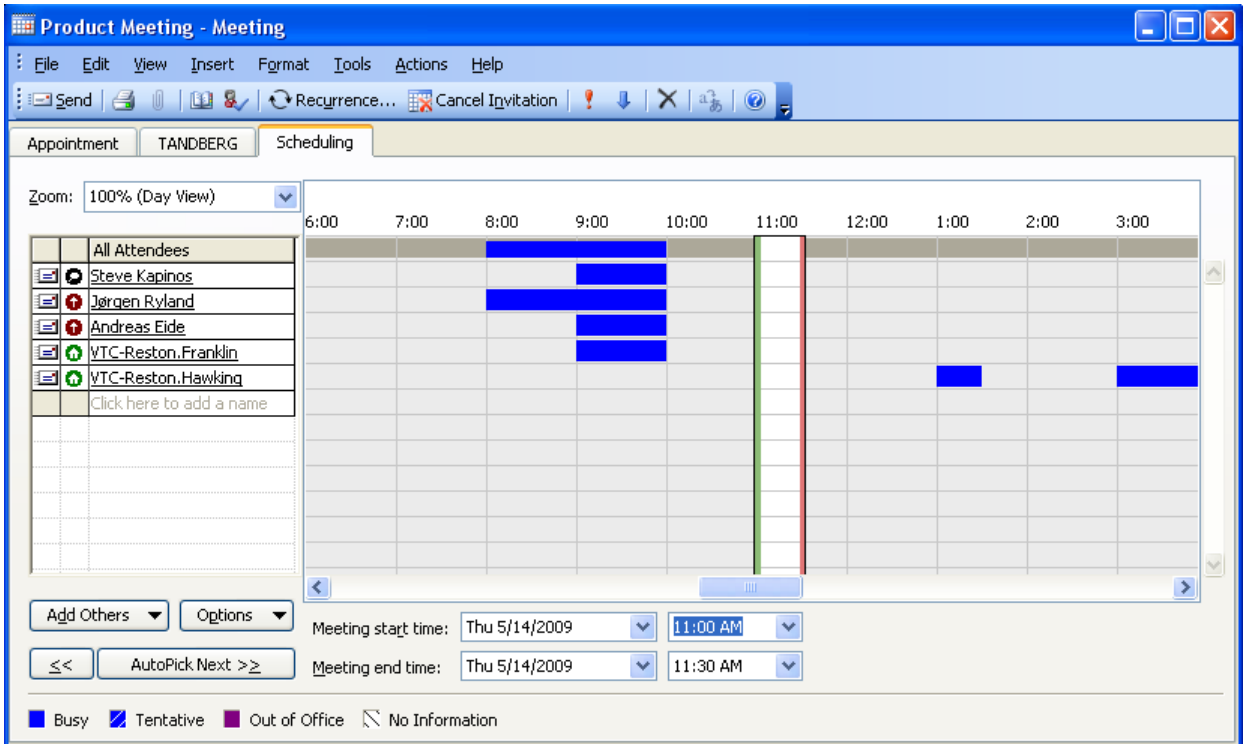
By clicking on the Scheduling tab, you can view the free/busy information for all of the meeting's invitees




Ensure everyone is free during the requested time period, or adjust the meeting's start and end times as necessary.

When finished, click the **Send** button to save the meeting and send out the invitations. The meeting event will save into your calendar.

Shortly after saving the meeting, you should expect to get the meeting accept/reject emails from the rooms and people you invited to the meeting. If a room/system rejects the meeting due to some reason with the video conference, you will receive an additional email immediately afterwards from the TCX integration providing more details on why the meeting was rejected.

If the meeting was accepted by the rooms\systems, you as the meeting organizer will get an email from the TCX Integration providing you with the details about your scheduled video meeting, including dialing information. You can copy this information into the meeting details and send out an update to invitees if desired. Conference settings such as bandwidth, encryption, etc will be set using the default parameters defined by the Conference Settings in TMS defined by the TMS administrator. See **Editing Meetings** for more assistance with sending updates.

# Editing Meetings

Meetings that have not started yet can be easily changed directly in your Outlook client if you are the meeting organizer – attendees can only suggest new times, not edit the entire Outlook meeting.

To edit a meeting, open the event in your calendar by double-clicking on it.

If the meeting is part of a recurring series, you will be prompted if you wish to edit just this occurrence, or the entire series. Make your selection and click **OK**.

Once open, modify the meeting to your like, including changing the time, adding/removing participants, etc.

When complete, click **Send Update** to save the meeting and send the changes to the meeting participants.

WARNING: Do not click **Save and Close** as this will only modify your calendar and will not send the changes to the other participants, including the rooms/systems. Doing so will NOT update your video conference booking.

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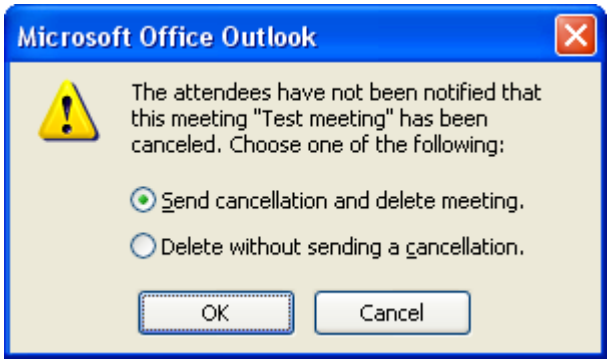
# Deleting Meetings

To delete a meeting, find the event in your calendar, right click on it and select **Delete** from the pop-up menu.

If the meeting is part of a recurring series, you will be prompted if you wish to delete this occurrence, or the entire series. Make your selection and click **Ok**.

Finally you will be prompted to send a cancelation notice or not.


Microsoft Office Outlook
The attendees have not been notified that this meeting "Test meeting" has been canceled. Choose one of the following:
Send cancellation and delete meeting.
Delete without sending a cancellation.
OK
Cancel

Select *Send cancellation and delete meeting* and click **OK**. Sending a cancelation notice is required to ensure the meeting will be deleted from the other participant's calendars, including the rooms\systems.

# Modifying Meetings from TMS

Meetings booked by a user that include a TMS integrated room\system will automatically be created in TMS, and the meeting organizer will be set as the meeting owner in TMS. The meeting in TMS will only show rooms\systems included in the meeting and not any individuals included in the meeting.

As the meeting owner, or as a user that has permissions to modify other user's meetings in TMS, a user can modify bookings created in Outlook/Exchange directly in TMS. If a meeting is modified in TMS, the meeting owner will receive an email with the updated conference information.

The rooms\systems integrated with Exchange will have their calendars automatically updated if a meeting is updated from TMS. However, for security protections, TMS and the TCX integration do not have access to open or modify user's calendars. This means a meeting modified in TMS will not automatically update the existing calendar entry in user's calendars.

If a meeting is updated in TMS, the meeting organizer should update the calendar entry in their calendar and send out updates to ensure their calendar and their invited participants are up to date. This is also a convenient time to add the updated video conference information to the meeting's details.

# Using the Resource's Calendar Directly

Users who have been granted permissions to a resource's calendar, such as through the security groups defined in the Configuration Utility, or directly, have the ability to open the resource's calendar in their own Outlook client. Opening the calendar is often useful for getting an overview of a resource's activities. Creating, editing, and deleting meetings directly in the calendar is possible and compatible with the TCX integration.

Users should take care when editing or deleting calendar entries directly in a resource's calendar when a meeting includes a mix of people and resources. This is because in Outlook Calendaring, changes made in the calendar directly will not update the Outlook calendars of other users who may be part of the meeting. Any resources included in the meeting will be updated as the TMS meeting is also updated with any changes, but user's calendars are never touched by the Integration. Be sure the meeting organizer can send updated information out to attendees.

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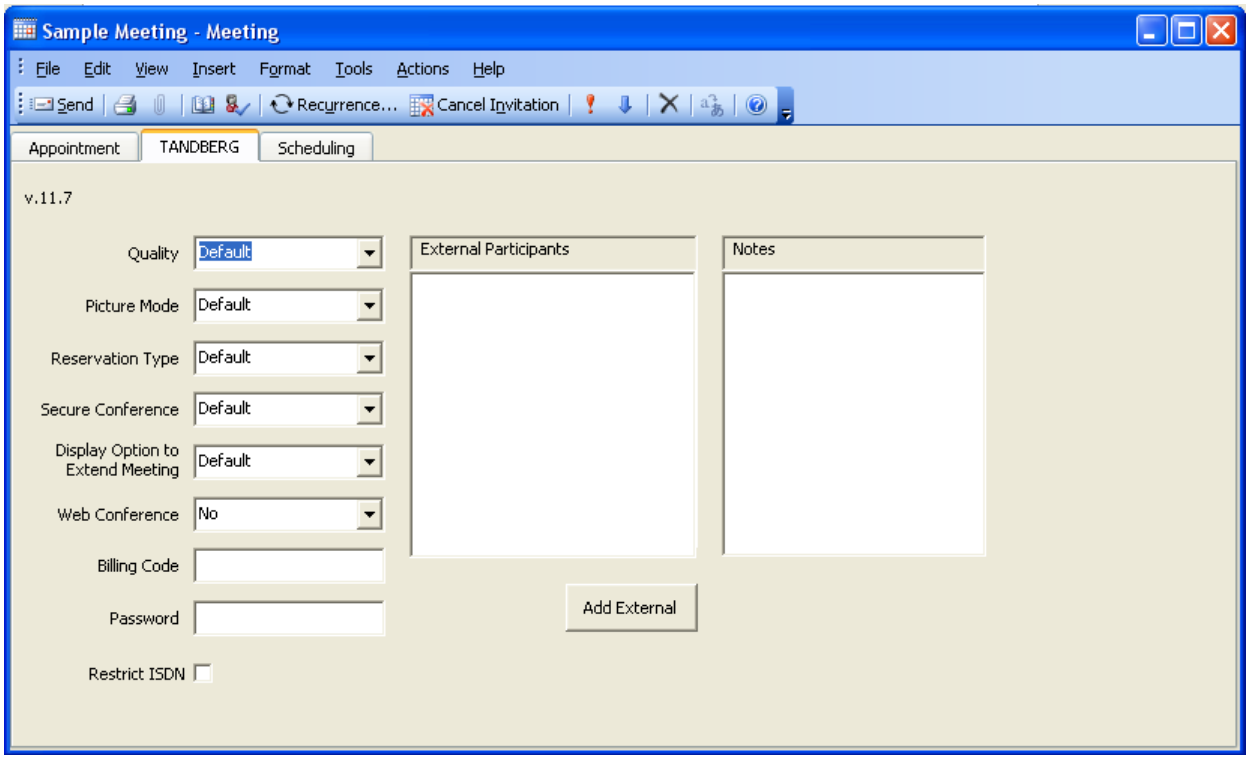
# Using the TANDBERG Form

When using the standard Outlook Appointment forms, meetings created using Outlook will be booked in TMS using the conferencing defaults defined by the administrator. Conference settings such as such as bandwidth, encryption, call setup type, etc will use the default values defined in TMS. TMS's call routing logic will automatically handle assigning MCUs, protocols, and gateways as required. This frees users from having to worry about technical details.

If the administrator has made it available, the TANDBERG custom form replaces the standard Outlook Appointment form and adds a new TANDBERG tab to the meeting entry. This tab allows additional functionality beyond the standard form including the ability to override the conference defaults and invite external video or audio participants to the conference.




Using the form simply requires selecting the TANDBERG tab in the calendar entry and making any changes desired. Any values left at 'default' will use the default setting as defined in TMS by the administrator. Once all changes are made, the meeting can be saved as normal. Additionally, an existing meeting can be edited with changes on the TANDBERG tab using the standard methods. Be sure to use the **Send Updates** button when saving changes to an existing meeting.

# Description of Form Fields

A brief description of each setting in the form is listed below. For further information on topics discussed here such as bandwidth, Picture Mode, etc, please see the TMS documentation.

| SETTING | DESCRIPTION |
|---|---|
| Quality | The bandwidth to use for the conference. Leaving it at default allows TMS to use the default settings for ISDN, IP, and Telepresence calls. |
| Picture Mode | Sets the video layout to use for a multipoint conference |
| Reservation Type | Sets if the meeting will be a reservation only (only the rooms are reserved), manual connect, or automatic connection of the video conference |
| Secure Conference | Sets the required encryption level of the conference. Setting yes requires all participants support encryption to book or connect the conference |

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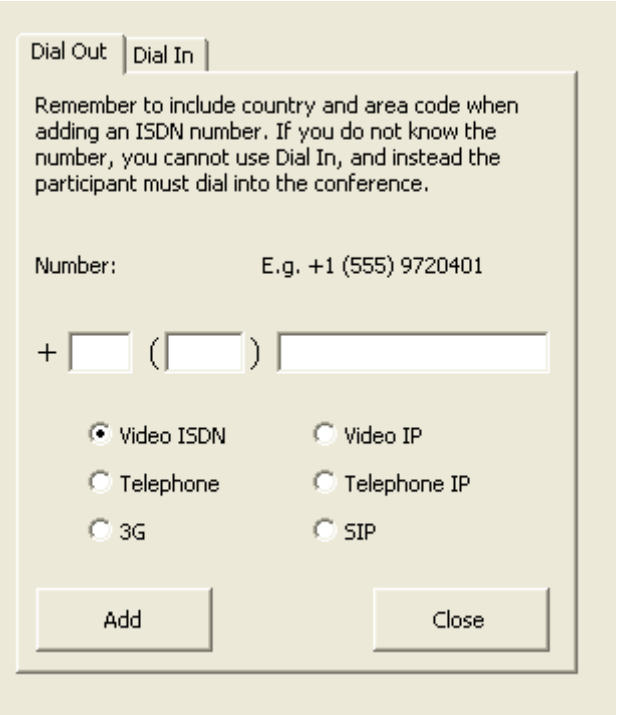
| SETTING | DESCRIPTION |
|---|---|
| Display Option… | Sets if TMS will prompt the Video Conference Master of the conference to extend the meeting when the meeting is about to end |
| Web Conference | Sets if you would like to request a Web Conference (such as See&Share) with the meeting. If set to 'Yes', the meeting will only be booked if a web conference reservation could be included. If set to 'If possible' the meeting will try to include a web conference, but will be booked even if a web conference reservation could not be done. |
| Billing Code | You can supply a billing code for the conference that will be saved with the meeting in TMS (can be set in TMS to be required). |
| Password | When using a MCU that can support conference passwords, defining a password here will require dial-in conference participants to enter this password to join the conference. |
| Restrict ISDN | Sets 56k Restricted on ISDN calls if checked |
| Notes | A free text area where notes about the conference can be added and can be seen in TMS. If the booked videosystems are linked up with a contact person who receives emails when a system is booked, the person will also get this message. |
| Add External | Use this button to add video or audio participants to the TMS booking that are not listed in Exchange. Such as dialing out to a telephone, or video system, or adding Dial-in ports for people to dial into your conference. Clicking the **Add External butt**on will display a panel where you can define the values you wish to use for the participant.<br>Click on the ***Dial-In*** or ***Dial-Out*** tab for the type of participant you wish to add. Enter the values appropriate for the type of participant you are adding and click the **Add** button. The participant will appear in the **External Participant** list. Repeat for each participant you wish to add to the meeting.<br>  <br>You can also delete selected dial-in or dial-out participants by selecting them and pressing the **Delete Selection** button. |

# Frequent Asked Questions regarding Outlook Booking

Q: Can I book a meeting using the integrated rooms and not include a video call?

A: Yes, any meeting created that only has one room\system included will automatically be booked as a 'Reservation Only' booking. Additionally, if multiple rooms are booked, a meeting can be forced to be a 'Reservation Only' booking using the TANDBERG tab and setting Reservation Type to 'Reservation Only'

Q: Why do I not see any MCUs in my Outlook lists?

A: Booking of a MCU is handled automatically by TMS based on the number and type of participants requested in the conference.

Q: Can I book a meeting that only has dial-in participants from Outlook?

A: For a meeting request in Exchange to create a TMS conference, at least one integrated room\system must be included in the meeting. Trying to book a meeting that has external participants defined in the TANDBERG tab, but no resource accounts included in the meeting will not create a TMS meeting. Ensure at least one integrated room\system is included if you wish to schedule a video or audio conference.

Q: Can I book just a web conference from Outlook?

A: A: For a meeting request in Exchange to create a TMS conference, at least one integrated room\system must be included in the meeting. Trying to book a meeting that has *Web Conference* set to Yes in the TANDBERG tab, but no resource accounts included in the meeting will not create a TMS meeting. Ensure at least one integrated room\system is included if you wish to schedule a web conference.

Q: Can I book a recording from Outlook?

A: Yes, you can book a recording device such as the TANDBERG TCS if the system has been integrated with Exchange. The TCS will appear like another room and should be scheduled like any other room. If you need to customize the booking with specific recording aliases, you should create the meeting in TMS instead of Outlook.

Q: Can I book meetings using Outlook Web Access? (OWA)

A: If your administrator and installation allow Asynchronous booking, you can create bookings including integrated rooms\systems using OWA. Direct Resource Booking and the TANDBERG custom form are not supported by OWA.

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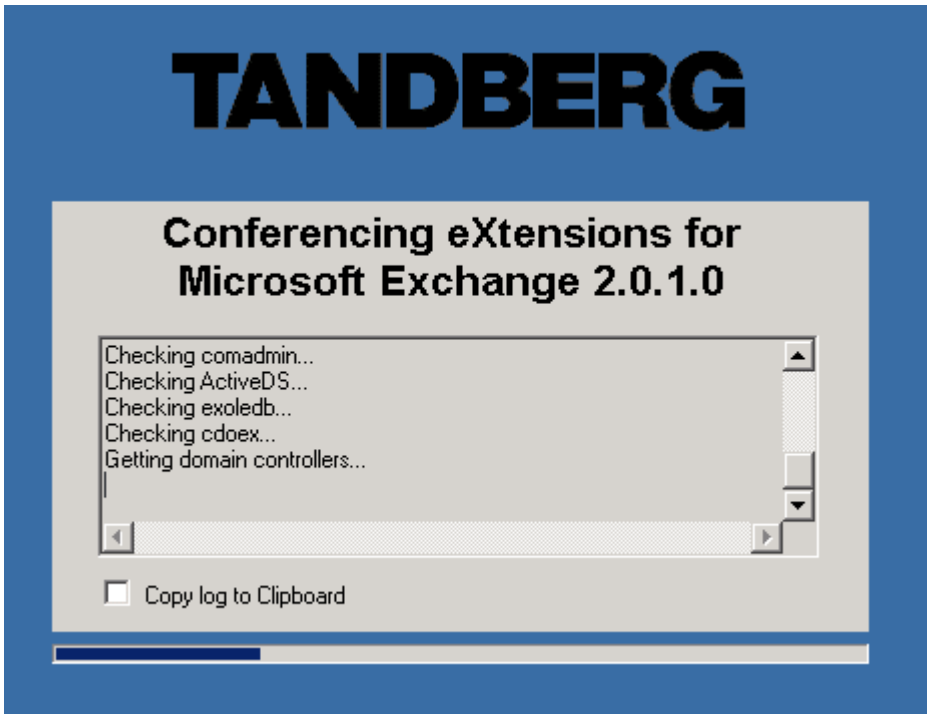
# TCX Software Reference Guide

## Configuration Tool Reference

This section will provide details on each of the features and uses of the Configuration Utility. The Configuration Utility can be found in the Start Menu under ***TANDBERG > TANDBERG Conferencing eXtensions for Microsoft Exchange > TANDBERG Configuration***

### Initialization Testing

When the Configuration Tool is launched, it will perform a series of tests on the components of the integration and the accounts it discovers as integrated with TMS.




These tests are diagnostics tests to detect any changes to the resource accounts, server, or service accounts that may adversely affect the integration. These tests can catch most administrator induced errors. The number of account integrated will affect the duration of these tests – a progress bar is displayed to show percentage of completion.

Marking the **Copy log to Clipboard** checkbox will copy the all the text displayed to the clipboard for pasting into another application if desired.

If any errors are detected that the utility can self-repair, a pop-up window will be displayed explaining the error and prompting if the error should be repaired. The utility will report if it was able to fix the condition successfully.

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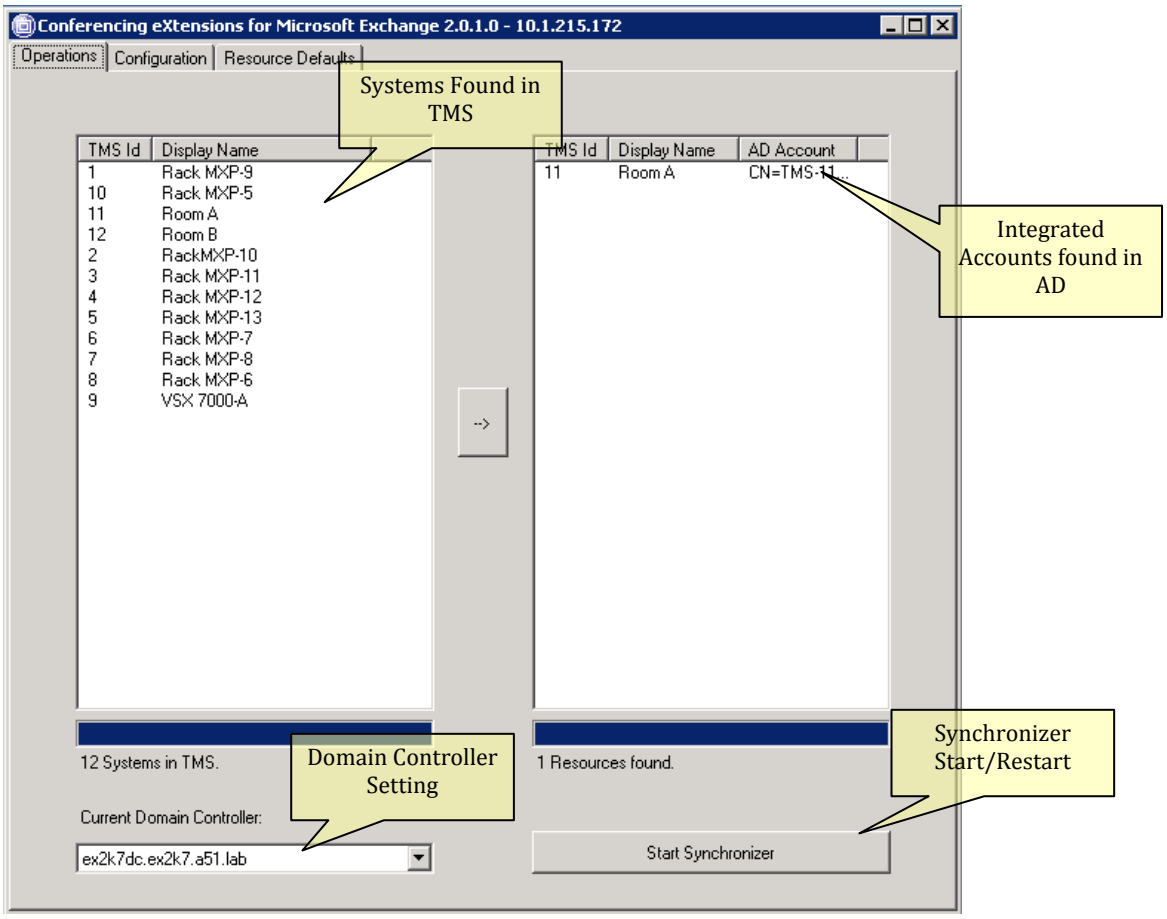
## Operations Tab

This is the main page of the Configuration Utility.




### *Left Column*

The left column displays all systems read from the configured TMS server that the TMS Service Account has access to. Endpoints, Rooms, and Recording Devices are listed – other system types are not available for Integration with Exchange but may be included automatically in meetings by TMS as required.

- *TMS ID* - Displays the 'System ID' from TMS
- *Display Name* – Displays the system's name as displayed in TMS.

A progress bar and summary is shown at the bottom of the list.

### *Right Column*

The right column displays all accounts found that the utility has detected as integrated with, or staged to be integrated with the TCX integration. The utility scans all mailboxes on the local Exchange Server and displays all those that have the TANDBERG custom attribute defined in the mailbox.

- *TMS-ID* – Displays the System-ID of the TMS system this account is associated with
- *Display Name* – Displays the name as read from the 'Display Name' attribute of the Active Directory account associated with this mailbox
- *AD Account* – Displays the DN of the Active Directory account associated with this mailbox

Tip: The user accounts and mailboxes created to represent TMS systems do not require or consume Client Access Licenses (CAL) for your Exchange Server. CAL licenses are tied to users or devices accessing the server, not the mailboxes themselves. An installation of TCX would only need one CAL for the server's components themselves.

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### *Adding Systems Button*

The Arrow button between the columns in the Operation tab is used to link systems from TMS to resource accounts in Exchange. Details regarding this functionality are covered in section **Enabling TMS systems in Exchange**.

### *Tools/Actions*

Right-clicking on any entry in the right-hand column presents a pop-up menu of available tools and actions. Use the shift or control keys to select multiple entries at once. These actions are primarily used for removing accounts from the integration, troubleshooting, or advanced installation scenarios.

The list below describes each of the actions available

| ACTION | DESCRIPTION |
|---|---|
| Enable sink(s) | Enables the sinks in the mailbox used to notify TMS about a booking in Exchange. When disabling the sinks, no check or booking is done on the TMS server, and the booking will only be done in Exchange. Used for repairing a damaged account or for advanced installation scenarios. |
| Test sink(s) | This tests if the sinks defined in the mailbox are calling the integration components with TMS properly. This is done by doing a booking in the past, and verifies that TMS replies with an exception informing that the bookings can not be done in the past. This can be used to validate bookings from Exchange to TMS are operating properly for this account. This is a troubleshooting-only tool. |
| Disable sink(s) | Disables the sinks in the mailbox used to notify TMS about a booking in Exchange. When disabling the sinks, no check or booking is done on the TMS server, and the booking will only be done in Exchange. Used for troubleshooting purposes. |
| Add Calendar permissions | Adds the groups defined in the Resource Defaults page as Editor and Author permissions respectively to the Calendar permissions of the selected mailboxes. Useful for updating existing accounts if those group settings are updated. |
| Add Service User Permissions | Gives the Exchange-side service account (TMS-Service) permissions to the mailbox and calendar of the selected account. Also sets the sinks on the account. Used for repairing a damaged account or other troubleshooting. |
| Reconfigure Account(s) from TMS | Used to fetch updated data from TMS for the selected accounts and update their displayed information in Exchange. This is particularly useful when systems change name or numbers in TMS. If this happens, selecting this option will update the Active Directory information for the selected accounts.<br><br>Note: Due to Active Directory replication and Address Book generation, it may take some time before these changes are seen by Outlook users. |
| Remove AD User(s) | Permanently deletes the selected Active Directory account and mailbox from Active Directory and Exchange.<br><br>WARNING: This action completely removes the account not only from TCX Integration, but from Active Directory as well.<br><br>Note, due to Active Directory replication and Address Book generation, it may take some time before these changes are seen by Outlook users. |
| Detach from Integration | Removes the selected account from being integrated with TMS by disabling the sinks and removing the custom attribute. Meetings created in Exchange for the account will no longer be synchronized with TMS or vise versa. The account will still be visible and usable by Exchange users as a normal Exchange resource account. This would be used to remove an account from Integration, but allow it to still be used in Exchange. |

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| ACTION | DESCRIPTION |
|---|---|
| (Re)Book all meetings | This option looks at all future meetings in the resource's calendar and checks it against TMS. Any meetings not in TMS will be booked in TMS so TMS has the correct availability information for the account. If there is any issue creating a particular meeting in TMS, the meeting's organizer will receive an email describing the issue. This function is typically used when an existing resource in Exchange is updated with video support or staged in advanced installs. This does not replicate previously created meetings from the associated system in TMS to the Exchange account. |

### *Current Domain Controller*

This specifies which Domain Controller the Integration and Configuration Utility will communicate with for all of its Active Directory needs. The dropdown list will be populated with all domain controllers that it detects for the local domain.

This selection is available as it allows you to control which domain controller handles the workload of all the queries from the Integration and it simplifies troubleshooting of replication as you know where the changes are initiated and read.

### *Start/Restart/Reactivate Synchronizer*

This button controls the starting of the synchronizer service which is responsible for replicating scheduling changes initiated in TMS's interfaces to the linked accounts in Exchange via a background service that runs on the Exchange Server. If the Synchronizer has not been told to start since installed, the button will be labeled *Start Synchronizer*, and clicking it will tell it to start processing scheduling changes in TMS from when TMS was first installed.

In upgrade scenarios, the Synchronizer will be idle and the button will be labeled *Reactivate Synchronizer*. Clicking the button will restart the Synchronizer from where it last left off.

If the Synchronizer has been told to start since installation, the button will be labeled *Restart Synchronizer*. The Synchronizer keeps track of a transaction history in TMS so that it only has to process new changes each time. Clicking *Restart Synchronizer* will reset the Integration's start point in that transaction history and begin processing all scheduling changes in TMS from the beginning.

Restarting the Synchronizer is not needed in normal operation and is only for specific, advanced situations. Restarting the Synchronizer will not affect any meeting data, but is a very intensive process that can take many hours to complete.

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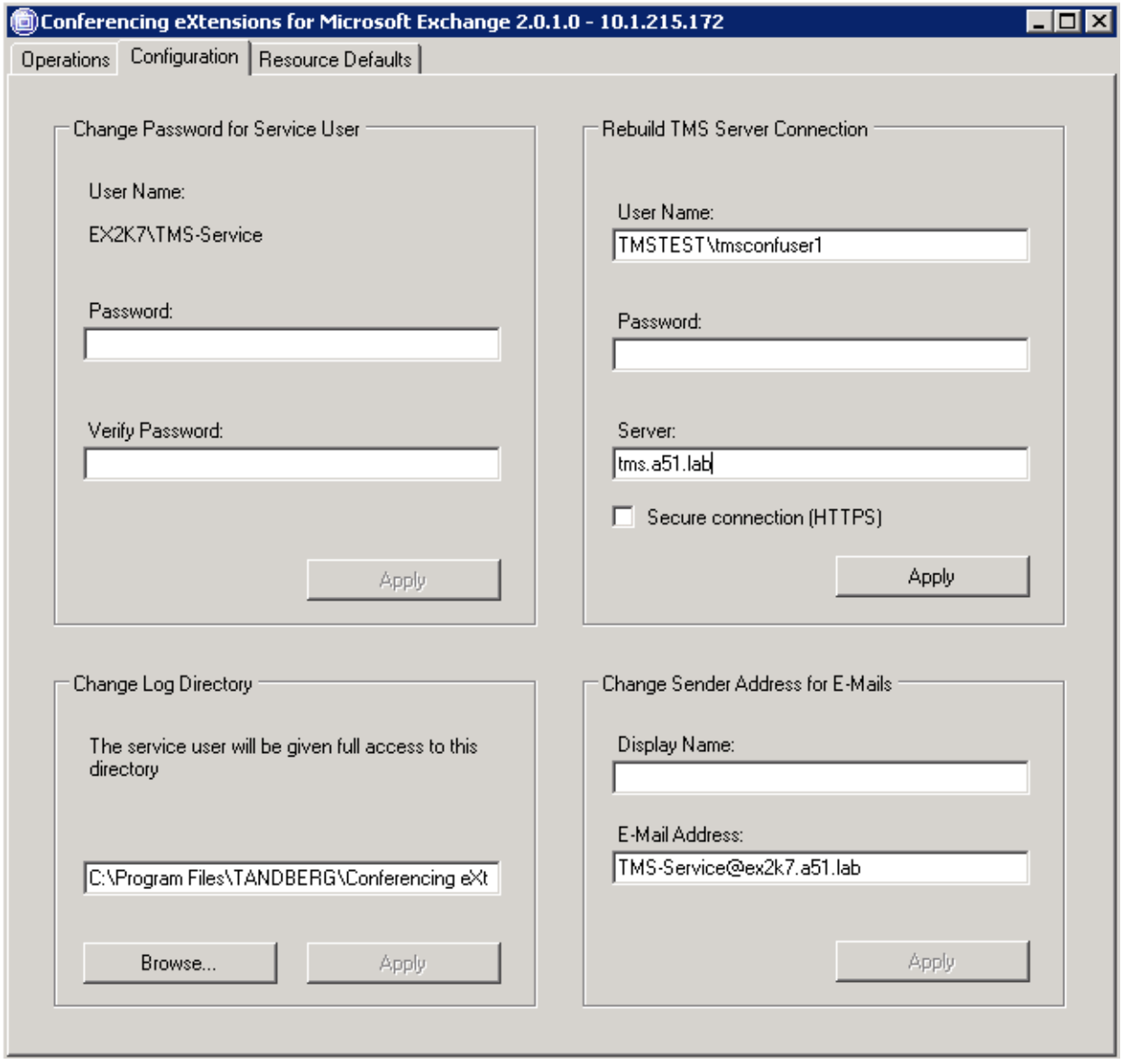
## Configuration Tab

This tab allows you to review and update the communications and configuration elements of the TCX Integration that were initially defined during installation. Changes made here will affect the TCX Integration product immediately.




### *Password for Service User*

The account used as the Exchange side Service user is listed (Default: <domain>\TMS-Service). If you wish to update the password of the Service Account, you must do it via this page. The Configuration Utility will update the Integration's references to the account's credentials and the password in Active Directory. Changing the service account's password outside the utility will cause the Integration to fail. If this occurs, update the account's password again here using the Configuration Utility to restore service.

To update the password, enter the password in the fields provided and click **Apply.**

### *Rebuild TMS Server Connection*

These fields display the information TCX uses to communicate with the TMS server. These fields are used to update the connection in case any of the values change, such as the service user's password being updated or the TMS server address changing. To update any of these fields, enter the new values and click the **Apply** button and the new values will automatically be tested. Each field is described below.

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| FIELD | DESCRIPTION |
|---|---|
| **User Name** | The username used by the Integration to log into TMS. The installation created a local user account named 'tmsconfuser' by default. The account specified here must have TMS booking rights on the systems to be integrated, the *Exchange Integration Service Account* flag enabled in its TMS user profile, and *book on behalf* permission in TMS. The username should be entered with its machinename or domain name as appropriate. Examples: machinename\username or domain\username |
| **Password** | The password to the specified user account. Entering a password here will not change the password on the account itself, only the password saved to be used by the Integration. To change the password of the service account itself, do so using Windows and then enter the password here to update the TCX integration. |
| **Server** | The network address of the TMS server. If using a load balancer for TMS, enter the shared address of TMS. |
| **Secure Connection** | When checked, the integration will use a HTTPS connection when communicating with TMS. HTTPS must be enabled on TMS for this option to be functional. Please see the TANDBERG Document *Implementing Secure Management* for more information regarding HTTPS on the TMS Server. |

### *Change Log Directory*

This setting controls where the logs for the TANDBERG integration are saved. To change this setting to a new location, enter the folder's path or click **Browse** to navigate to the new folder. Once selected, click **Apply** to save the change.

### *Change Sender Address*

These fields define what information is put into the Email Address headers for emails sent by the Integration to users. This is used to change the appearance of emails sent by the Integration to users and may be customized if desired.

Note: The behavior of your email client with regards to headers and from lines may affect what users see.

| FIELD | DESCRIPTION |
|---|---|
| **Display Name** | This field is blank by default, but some mail systems require a value be entered here. |
| **Email Address field** | Defaults to the Exchange side Service User's address (TMS-Service) and is used as the From address in the mail header. |

## Resource Defaults Tab

This tab shows several controls available regarding the default configuration of resource accounts created by the Configuration Utility.

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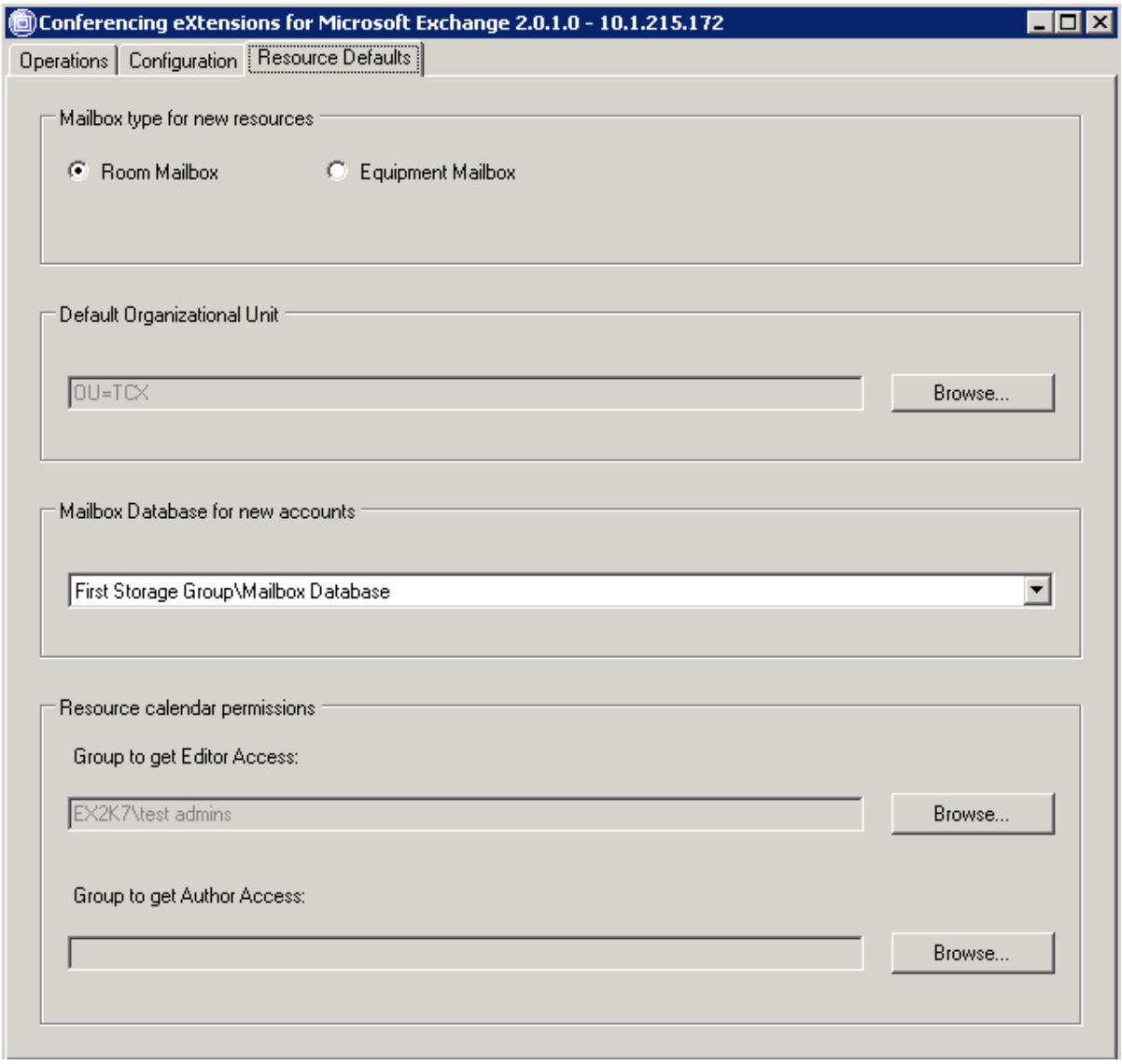
Note: These values are the defaults for accounts to be created. Changes here do not automatically affect accounts that have been created previously




### *Mailbox Type for new resources (Exchange Server 2007 Only)*

Controls the account type used for new accounts. The choice does not affect how the integration functions and is relevant only to how administrators want to list or display accounts to users in their clients.

### *Asynchronous Booking (Exchange Server 2003 Only)*

System-wide setting that allows users to use Asynchronous booking in addition to resource booking when integrated on an Exchange 2003 server. If set to *Allow*, invites sent via email will be processed by the Integration. If set to *Instruct user to use resource booking*, when an email invitation is received, it will be rejected and the user will receive an email instructing them to make the meeting request using the Resources field in the meeting invite. For more information regarding Asynchronous booking vs. resource booking, please see **Explanation of Resource Booking Models**.

### *Default Organizational Unit*

This setting controls where accounts created by the Configuration Utility will be created in Active Directory. To change this setting, click **Browse** and a window will appear allowing you to browse the Active Directory and specify an existing OU or create a new one.

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### *Mailbox Database for New Accounts*

This setting controls which Mailbox storage group is used for mailboxes created for new accounts created by the Configuration Utility. This drop-down list will automatically be populated with all Mailbox storage groups found on the local server.

### *Resource Calendar Permissions*

The groups defined here will automatically be assigned Editor or Author permissions respectively on the calendars of accounts created by the Configuration Utility. In Exchange 2003 installations, these groups are defined during installation, and users must be a member of the Author group to be able to use Direct Resource Booking. Users who are members of the Editor group will be able to book the resource and also able to edit meetings in the resource's calendars that were created by other users.

In Exchange 2007 installations, these groups are empty by default as the permission groups are not used to control booking resource accounts in Asynchronous Booking. However, they can still be used if desired to give user groups direct access to the calendar of resource accounts.

To change either of these groups, click the **Browse** button and a window will appear to allow you to select a user group from Active Directory.

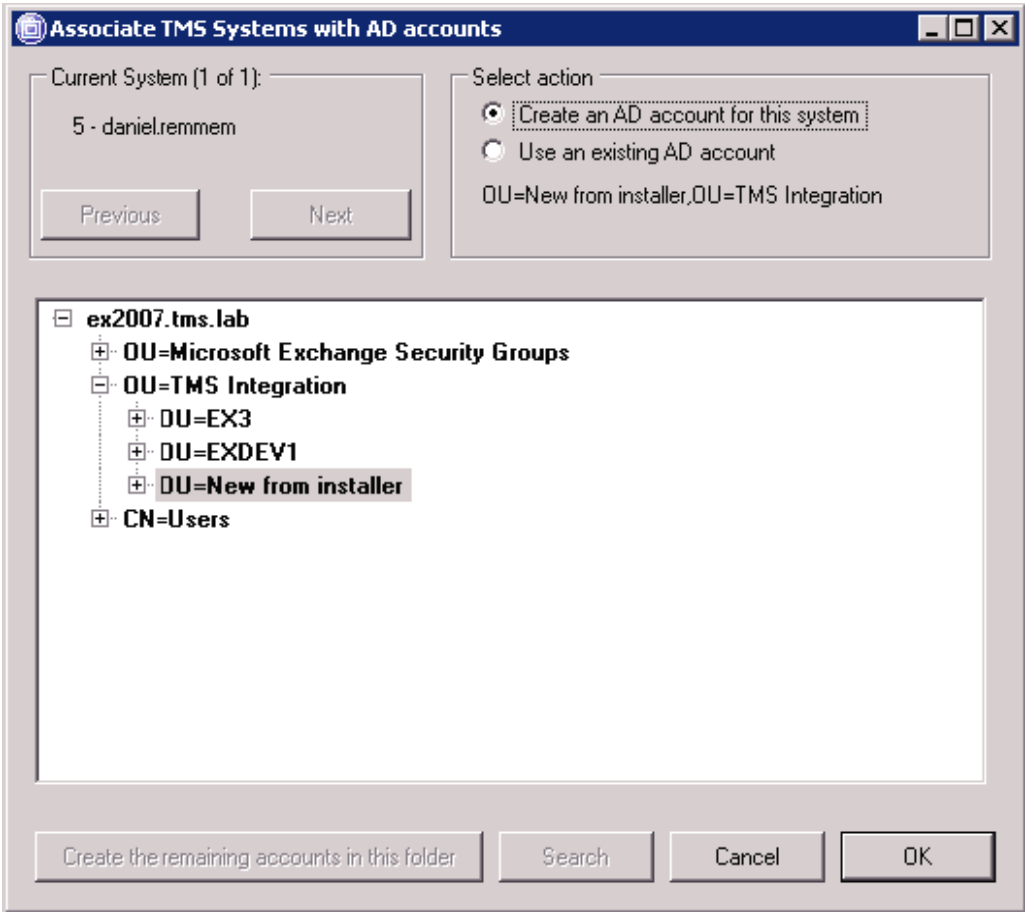
If you wish to retroactively apply changes made here to existing accounts, you can use the *Set Calendar Permissions* action in the Operations Tab of the Configuration Utility to apply the security groups to selected existing accounts.

## Enabling TMS systems in Exchange

The left hand column on the Operations tab represents all endpoints, rooms, and recording devices found in the configured TMS Server that the TMS side service user has access to. The right hand column lists all Exchange accounts that have been determined to be integrated with TMS via TCX.

Select one or more TMS systems you wish to enable in Exchange from the left hand list. Use the shift or control keys to select multiple systems. Click the → button.

A new window appears which walks you through the Active Directory configuration for each selected system



For each selected system, this dialog walks you through creating a new Active Directory account and mailbox OR associating the system with an existing Active Directory account and mailbox. Use the **Previous/Next** button to switch between systems. The current system being configured is displayed in the top left. The dialog allows you to choose an option for each selected system individually. When multiple systems were selected, the **OK** button will be disabled until a choice has been made for each system.

WARNING: Account creation/deletion/changes may take time to replicate through your Active Directory. When changes are made outside of the Configuration Utility, depending on your Active Directory design these changes may take upwards of an hour to replicate across domain controllers. If you experience errors or inconsistencies with account creation, please shutdown the Configuration Utility and allow time for your Active Directory changes to propagate.

Select the account options for each system as follows

1. Use the Next/Previous buttons to select the desired system

| ALTERNATIVE A | ALTERNATIVE B |
|---|---|
| To create a new account for the system: | To use an existing account[7] |
| Ensure *Create an AD account…* is selected. The center panel displays a list view of your Active Directory's organizational structure. Expand the tree if necessary and highlight the Organization Unit (OU) where the new account should be created. The mailbox and Active Directory user will automatically be created by the utility[8]. If you wish to use these same setting for the remaining accounts to be added, click **Create the remaining accounts** in this folder button, else use the **Next/Previous** buttons to switch to the next system. | This option will reconfigure an existing AD user account and mailbox to be associated with the TMS system. Select *Use an Existing AD Account*. The center panel will show you your domain's organizational structure. Navigate the tree to find the desired AD Account or use the Search feature. Only user accounts that have their mailbox on the local server will be displayed. Click on the user account you wish to associate to this TMS system. |

If an OU has more then 1,000 entries, only the first 1,000 will be displayed. Please use the Search option when OUs are very large.

2. Repeat the above steps using the **Next/Previous** buttons to toggle between the systems until a choice has been made for each system.
3. Click the **OK** button to continue.

In Exchange Server 2003 Installations, the utility will ask you for a password to use for the newly created accounts[9]. The password entered will be used for accounts that are to be created. Marking the *Reset password for all…* checkbox will set the password on accounts that are being re-used as well.

The password for resource accounts is not needed by users or in normal use. It is only for administrators that may wish to log into the account/mailbox directly. The resource account

[7] The Active Directory User Account associated with the mailbox must be a member of the local domain where the TCX product is installed

[8] The account will be created with the username of TMS-<id> where <Id> is the TMS System ID. The display name of the AD user will be set to the System Name in TMS. The mailbox will be created in the Mail Store designated during installation.

[9] This is only for Exchange Server 2003 Installations – Exchange Server 2007 installations will create an AD account with no password and the user account will be disabled as is normal for resource accounts in Exchange 2007

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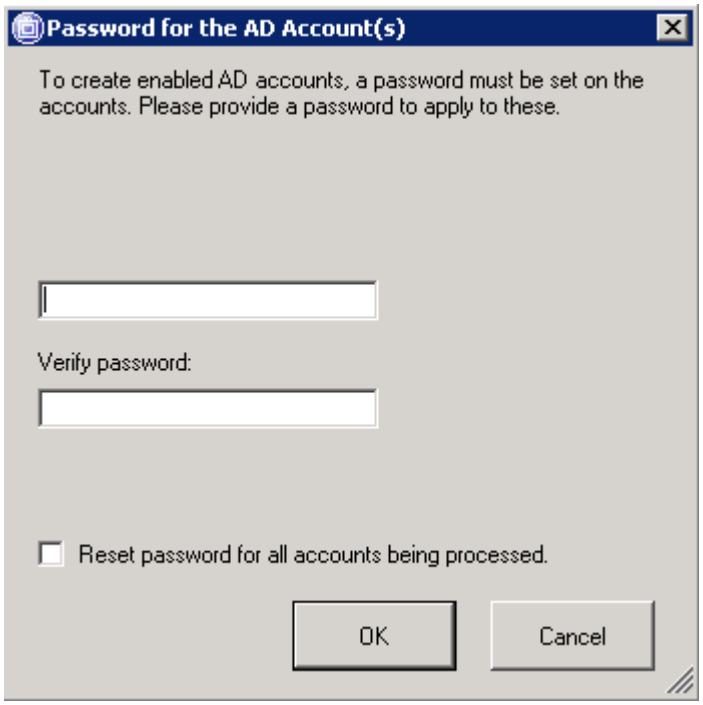
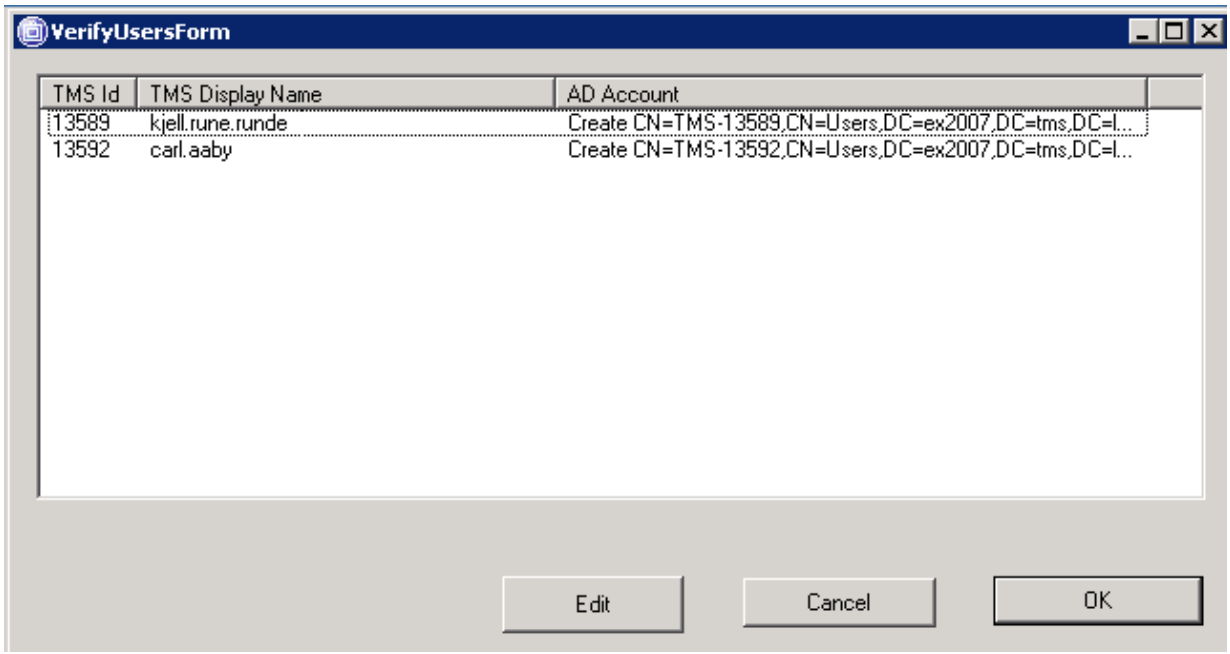
passwords can be changed using standard AD tools afterwards without affecting the TCX integration.


Password for the AD Account(s)
To create enabled AD accounts, a password must be set on the accounts. Please provide a password to apply to these.
Verify password:
Reset password for all accounts being processed.
OK
Cancel

Review selections - After choices have been made for all selected systems, a window will present a summary display of your choices.




If the information is correct, click **OK**, or if alterations are needed click the **Edit** button to return to the previous screen.

If one or more of the systems imported were associated with existing accounts, you will be asked if existing meetings events from the accounts' Calendars should be imported into TMS. This ensures the resources' calendars and TMS are in synch.

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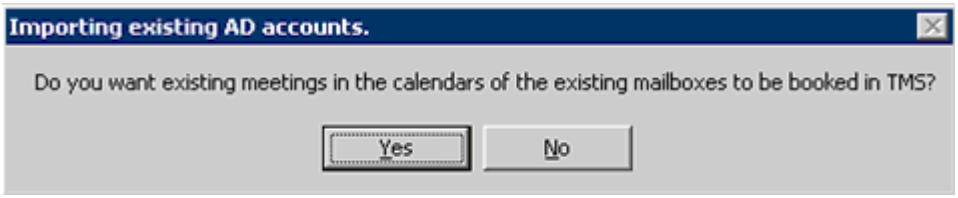
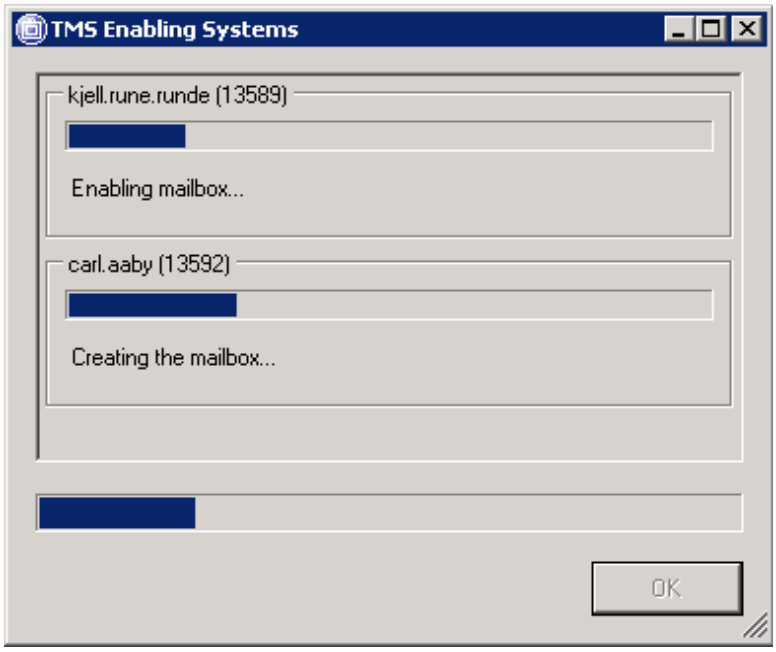

Importing existing AD accounts.
Do you want existing meetings in the calendars of the existing mailboxes to be booked in TMS?
Yes
No

Clicking **Yes** will cause all existing bookings in the Resources' calendars to be booked in TMS. Clicking **No** will skip this step. If there are any issues booking an existing meeting, the meeting's organizer will receive an email detailing any actions necessary.

Meetings with no end date can not be booked in TMS and will synchronize to TMS. After TCX is installed, any meetings of this type should be edited using Outlook to a new meeting with a fixed end-date.

The configuration tool will now perform the tasks as instructed, and a status screen shows the progress of the individual systems and the overall progress.




Note: This process can take some time depending on the number of systems you are importing and design of your Active Directory.

When complete, click the **OK** button and the Operations tab will be displayed with the newly added systems in the right-hand column.

# Manually Enabling Auto-Accept

As part of the process when enabling resource accounts in Exchange 2003, the configuration tool will turn on *auto-accept* in the resource's calendar options. In some scenarios, the methods used by the software to enable this setting are not available and this must be done manually when resource accounts are enabled. The Configuration Tool will report if it was not able to enable this setting automatically when enabling accounts.

1. On a client computer with Outlook installed, create a new Mail profile using the Mail Control Panel. In the Mail profile, click **Show Profiles**, and add a new Mail profile, with an Exchange Mailbox with the credentials and properties of the resource account you are trying to modify. Once created, you can set Outlook to prompt you for which profile to use when launching Outlook.

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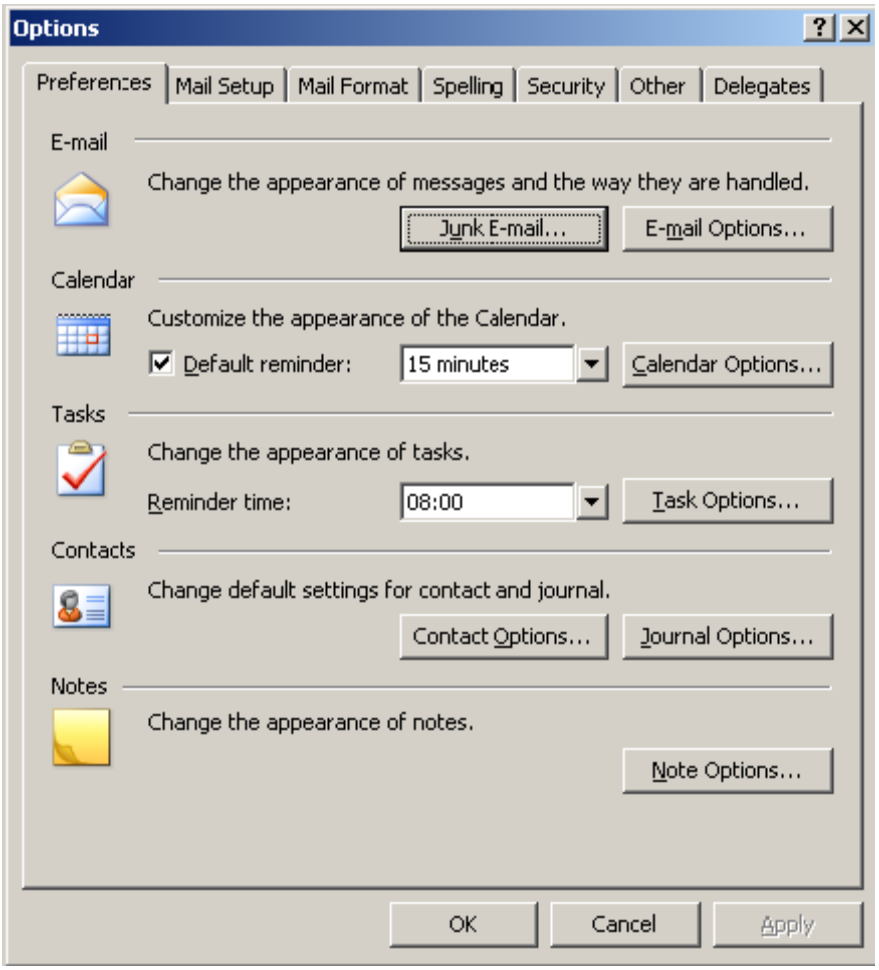
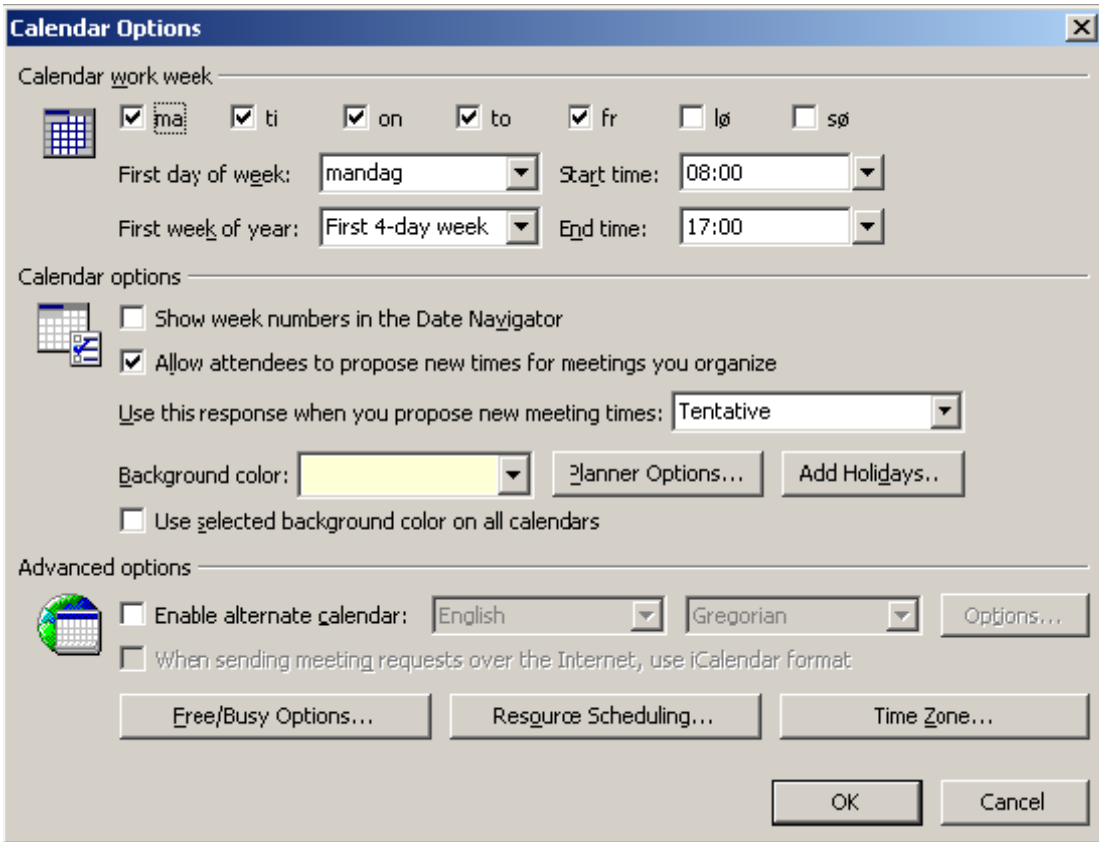
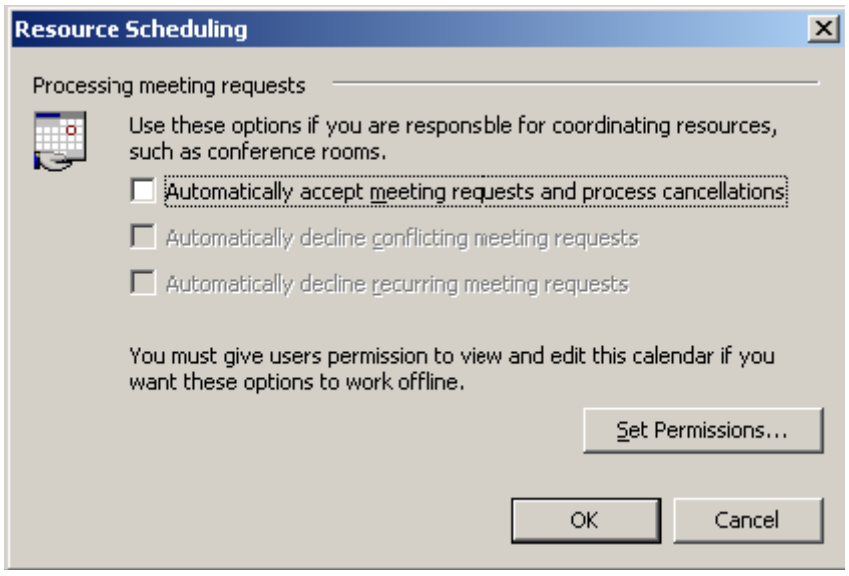
2. Open Outlook, and select the profile you configured for the resource account and supply the credentials for the resource account.
3. Once the mailbox opens, select from the menu ***Tools > Options.***



4. In the *Preferences* tab, click the **Calendar Options** button.




5. In Calendar Options, click the **Resource Scheduling** button.


Resource Scheduling
Processing meeting requests
Use these options if you are responsible for coordinating resources, such as conference rooms.
Automatically accept meeting requests and process cancellations
Automatically decline conflicting meeting requests
Automatically decline recurring meeting requests
You must give users permission to view and edit this calendar if you want these options to work offline.
Set Permissions...
OK
Cancel

6. Mark the checkbox for *Automatically accept meeting request and process cancellations* and click **OK**
7. If you are prompted about setting default permissions, accept the change
8. Click **OK** to close the Calendar Options, and click **OK** again to close the Options panel. Close Outlook

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# TCX Logging Features

The TCX product has logging features to assist with troubleshooting of the installation and operation if required. The directory for these log files is configured in the Configuration Utility and by default is a sub-folder named *Logs* in the installation directory.

The logging detail and modes are controlled via registry settings the administrator can modify if desired. All values are stored in the registry at
`HKEY_LOCAL_MACHINE\SOFTWARE\Tandberg\TANDBERG Management Suite Exchange Integration`

Administrators can use the Windows Registry Editor to create/modify the registry keys as needed.

After any of these registry settings have been modified, the Integration should be restarted to have the changes take effect. This can be done by either restarting the Windows Server, or you can avoid restarting the server by restarting the TANDBERG COM+ Package itself.

To restart the COM+ Package,

1. Open the Component Services Snap-in in a MMC Console
2. Expand the tree ***Component Services > Computers > My Computer > COM+ Applications***
3. Find the TANDBERG listing, right-click on it and select **Shut Down**
4. Right-click on the TANDBERG listing again, and select **Start**

The TANDBERG components will not process any registry key changes you may have made.

## Setting Log Levels

Logging is controlled per component. You can define the level of information logged, and where it is logged to. By default, Errors and Info are logged to file for all components. Changing this behavior is controlled through the creation of two possible registry strings for each component - **LogLevel** and **LogMode.** These keys are not present by default, and if not detected, the default values are used.

A list of valid components you can control are listed below. The name in the left column is the string to use in the registry string (names are case sensitive!)

| VALID COMPONENTS | HOW TO USE |
|---|---|
| Installation | Logging for steps and actions from the software installation/upgrade/uninstall |
| TANDBERG Configuration | Logging for actions initiated from the Configuration Utility |
| TANDBERGSinks | Logging related to the mailboxes/calendars and triggering of the Synchronizer |
| SyncHandler | Logging related to the Synchronization processes between TMS and Exchange |
| TMSConferenceAPI | Logging related to the conferencing details passed between TMS and Exchange |

**LogLevel**

The Loglevel value is used for controlling the amount of detail that is logged for a particular component. To set the LogLevel for a particular component, create a new String Value in the TCX registry key whose name is **LogLevel ComponentName** replacing ComponentName with one of the valid Component names**.** Once created, modify the string by double-clicking it and set the value to the desired level from the list below**.**

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| VALUE | MEANING |
|---|---|
| -2 | Off |
| -1 | Errors Only |
| 0 | Errors and Info (default) |
| 1023 | Full debugging |

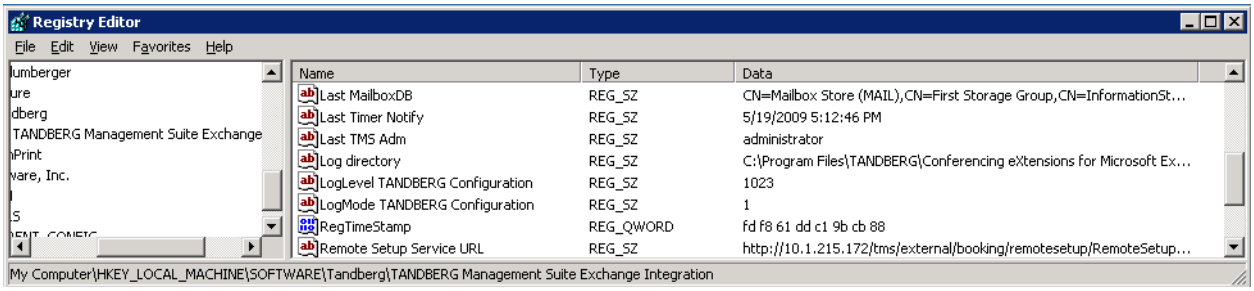
**LogMode**

The LogMode value defines where the information for a particular component is logged to. Logging can be to file or to OutputDebugString. When logging to OutputDebugString, you can use the freely downloadable DebugView utility from Microsoft to capture and view the information in real-time. DebugView can be found at http://www.microsoft.com/technet/sysinternals/Miscellaneous/DebugView.mspx

To set the LogMode for a particular component, create a new String Value in the TCX registry key whose name is **LogMode ComponentName** replacing ComponentName with one of the valid Component names**.** Once created, modify the string by double-clicking it and set the value to the desired level from the list below**.**

| VALUE | MEANING |
|---|---|
| 1 | Log to file (default) |
| 2 | Log to OutputDebugString |

Example: Setting component 'TANDBERG Configuration' to Debug Level Logging to file




## Managing Log Files

All log files are written to the same directory. This directory is normally defined using the Configuration Utility, and can be seen in the registry key as string **Log directory** . When a component is set to log to file, each component creates a separate log file named **ComponentName.log** in the log directory.

To prevent the logs from getting too big and taking up too much disc space, an administrator can control the maximum file size and rotation of the log files. This is done globally, so all logs share the same rotation and sizing rules. The size of files is controlled by the string value **Log Size**

**Log Size**

This registry setting is used to control size. The log size is a string whose value is the maximum size of a log files in bytes. To set the **Log Size**, create a new String Value in the TCX registry key whose name is **Log Size .** Once created, modify the string by double-clicking it and set the value to the desired size in bytes. Example, setting the value to '10485760' for 10MB. This is also the default value used if Log Size is not defined.

The log files will be rotated when a log hits its maximum size as defined by **Log Size**. When that happens, the log file is renamed **ComponentName.bak** and a new **ComponentName.log** file is

created. If an existing **ComponentName.bak** file already exists, it is replaced by the newly rotated log.

# Resolving Custom Attribute Conflicts

The TCX integration relies on being able to set/read a *Custom Attribute 1* in the mailboxes used for its Exchange Service account and the resource accounts integrated with TMS. In some customer installations, this custom attribute is already in use for other customer-specific uses. To accommodate these situations, Administrators can define which of the 15 possible custom attribute slots the TCX product will use.

To change from the default perform these steps prior (recommended to do prior to installing TCX)

1. Open the Registry Editor regedit.exe
2. Navigate to the registry key `HKEY_LOCAL_MACHINE\SOFTWARE\Tandberg\TANDBERG Management Suite Exchange Integration`.
   If it does not exist, create a new registry key in this location.
3. Select the `TANDBERG Management Suite Exchange Integration` key, and in the right panel, right click and select ***New > String Value***. Name the new value **TMS Id AD Attribute** (case sensitive!).
4. Double-click the newly created string value, and in the value field enter the number of the attribute you wish to use and click **OK**.
5. Close the registry editor.

When running the TCX installer and Configuration Utility they will now use the custom attribute ID defined in the registry key. This does not reconfigure any existing accounts, so if any existing accounts were added before making the change will need to be re-enabled using the Configuration Tool to update them with the new settings.

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# Additional Reference Materials for Administrators

The following sections are reference material for Exchange Administrators. These sections provide additional details on the technology behind the TCX integration and the impact on the Exchange Server itself so administrators can be confident in how the TCX software affects their environment.

## Functional Overview of TCX Integration

The calendaring functionality of Microsoft Outlook and Microsoft Exchange allows users to create meeting events in their calendars, invite other participants, resources, or equipment directly from their Outlook client. The workflow and steps to book such meetings are commonly understood by Outlook users. TANDBERG Conferencing eXtensions (TCX) leverages the programmable extensibility of Microsoft Exchange to expand this functionality to include functionality from TMS while making minimal or no changes to the User's experience. This reduces training needed to deploy the product and makes scheduling of video conference resources easier and more accessible.

To model rooms or equipment that can be invited to meetings by users, Exchange uses designated mailbox and user accounts to represent what users can schedule. Exchange Server 2007 updates this model by having special designations of 'room' or 'equipment'. These accounts have their own calendars and permissions, just like a normal user. In a traditional installation, these accounts are configured to automatically accept all meeting invitations sent to them, and their calendar is updated so other users can see when the room is available.

TMS has its own database which maintains scheduling information and availability for all systems it manages. Beyond availability, TMS also understands notions such as are other resources such as is a MCU required? How to automate any call connections? Are the systems using compatible protocols? etc. Users are able to make requests to book resources managed by TMS directly from the TMS web interface.

To allow users to schedule their TMS managed devices from Outlook or TMS interchangeably, there must be a representation of a system/room in both environments. In TMS, this is the managed system. In Exchange, a resource account is created to represent the system/room. These two representations must be kept in synch to allow users in either environment to use them interchangeably.

Because TMS understands more about the resources, and adds additional checks before allowing a meeting to be created, TMS is the authoritative role. Meetings are not allowed to be saved, unless TMS says the meeting is valid. For meetings created directly in TMS, this is done by default and TMS does not need to check with Exchange. For meetings created in Exchange, this means Exchange must check with TMS, before allowing a meeting to be saved. Additionally, there must be a synchronization process to ensure any meetings or changes that originate in TMS, are updated on the calendars in Exchange.

To achieve this, two methods are used. The TCX software interjects when a meeting is attempted to be saved in a resource's Exchange Calendar so it can check with TMS, and a synchronization process is used to update Exchange with changes that originate on the TMS side.

To interject when meetings are saved in Exchange, TCX uses 'Calendar Sinks' on the resource accounts. Whenever someone attempts to write to the Calendar, the details are provided to TMS, and a meeting is created in TMS based on the details of the Exchange invitation. If the meeting is able to be saved in TMS, the meeting is allowed to be saved in Exchange, and the booking user gets an acceptance message followed by an email with the meeting details from TMS. If the meeting is not possible to save in TMS, the meeting in Exchange is rejected and the user receives an email stating why. Sinks allows TCX to inject itself only on resource accounts the administrator intends to be integrated with TMS; leaving all other calendars and resources untouched and operating as before.

Because the sink method only interjects when a meeting is saved on an Exchange Calendar, something must update the Exchange Calendars if changes are made to the representation of the system/room in TMS. This process is handled by a synchronizer installed on the Exchange Server that is notified whenever a booking change happens on TMS. The synchronizer connects to TMS to determine if the change affects any of the systems integrated in Exchange, and updates their calendars as needed. The synchronizer also automatically checks every 3 minutes as a failsafe in

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case notifications from TMS are missed. Using these methods, resource calendars are updated almost immediately after changes have been made in TMS.

The combination of interjecting when writing to the calendars of resource accounts and Synchronizing keep the separate representations of the same room or system in synch across both platforms.

# Changes and Impact of TCX Installation on Existing Servers

This section is provided as reference for administrators who desire to understand fully the impact of installing TCX integration on their Exchange Server.

As part of the guided installation, the installer makes the some necessary changes in the scope of Domain users, the Exchange Server, and TMS Server. The changes of significance are listed below.

## Changes on Exchange Server and Domain

- The installing user specifies an Organization Unit (OU) to use as the default location for all accounts created by the software. The user is given a choice to create a new OU if desired.
- A 'TMS-Service' Active Directory user account is created in the local domain in the selected OU to act as a service account on the Exchange Server
    - A strong password is automatically created for the user. This can be changed using the Configuration Utility post-installation if needed.
    - A mailbox is created for TMS-Service account and an inbox sink is registered on the mailbox
    - There is an option to re-use an existing AD user account if desired instead of creating a new one if desired
- Creates two security groups which are used to assign calendar permissions (Only created in Exchange 2003 installations)
- A role-restricted COM+ Application is created on the Exchange Server which runs as the TMS-Service service account
- An installation folder with a log directory is created and the service user is granted access to the log directory
- A Configuration Utility is installed to manage the product, and is accessible via a TANDBERG Program Group added to the Start Menu
- Registry keys are created within a TANDBERG Hive in the Registry and the service user is granted permission to these keys

## Changes on TMS Server

- A local Windows User account named 'tmsconfuser' is created on the TMS Server (Normal Windows User privileges only) with a strong random password.
    - Alternatively an existing account can be specified during installation if manually configured
- Assigns the 'tmsconfuser' account the 'Exchange Integration Account' permission within TMS and adds it to the Site Administrators Group

## Permissions Granted to Service Users

The service users permissions will be configured automatically when created by the installer, but the following permissions must not be restricted for the service users.

Exchange Side Service User - TMS-service

- Log on as a Batch job
- Read/Write permissions to the TANDBERG Key in the registry
- Write permissions to log files directory
- Read permissions to log files directory and the installation directory
- Activate permissions to the TANDBERG COM+ package
- Do not grant this user any Exchange Administrator Roles to prevent it from accessing other mailboxes

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TMS Side Service User - tmsconfuser

- Must have access to login to the Windows Server hosting TMS
- Needs to be a member that has 'Book on behalf of' permissions in TMS
- Must have 'Exchange Integration Service Account' set to Yes in it's TMS Profile
- Must have booking permission to the systems in TMS to be integrated

# Licensing Requirements

## Exchange Licensing

The TCX Integration has no impact on your Exchange licenses from Microsoft.

## TMS Licensing

Each system that is to be integrated with Exchange must already exist in TMS and be properly licensed itself in TMS. For licensing of TCX Integration, the licensing can be per system, or per Exchange Server integrated with TMS depending on the type of license you purchase.

When using per system licensing, controlling which systems are consuming licenses is set by the **Remote Booking** flag in System Navigator on each system. By default, **Remote Booking** will be set to *No* for each system. The first time a system is used from Exchange, if there is a free license available on the TMS server, **Remote Booking** will be toggled to *Yes* for that system. In doing so, licensing is automatically enabled for systems you have integrated with Exchange. If no more licenses are available, and **Remote Booking** = *No* for that system, the requested booking will be denied.

# Explanation of Resource Booking Models

Microsoft Exchange and Outlook offers two distinct ways to book resource accounts. The different models have different requirements and user experiences. Both models should be understood so an administrator can decide which is best for their organization. In Exchange 2003 installations, administrators may choose which booking model to use. In Exchange 2007 installations, Microsoft has moved away from the Direct Resource Booking model and therefore it is no longer the default method and is not covered by the standard instructions in this manual. Notes on using Direct Resource Booking in Exchange 2007 with TCX can be found in the section **Using Direct Resource Booking in Exchange 2007.**.

## Resource Scheduling Model/Asynchronous Booking

In this model, users send a meeting invitation via e-mail to the resource accounts just like they invite other meeting participants. The meeting invite is then accepted or rejected by the resource account and the meeting coordinator receives a response just as they do from other meeting participants. The sending of the invite and receiving of the response are done separately, so this model is referred to as 'Asynchronous Booking' by TANDBERG.

This model has the advantage that users do not need to have special permissions to the resource's calendar and they are not required to use the **Resources** field. This model also does not rely on the Outlook client, so it is more compatible with other interfaces, such as Outlook Web Access (OWA).

In this model, the user sends out invitations before they receive a confirmation from the resource accounts. This means if a resource rejects the initial meeting invite, the user should re-open the calendar entry and try to rebook it. In an Exchange-Only installation, there is less potential for a resource account to reject a meeting as long as it is free. But when scheduling audio/video resources in addition to room availability, there can be other reasons such as a lack of MCUs available, incompatible call types, etc that could lead to a request being rejected. With Asynchronous Booking, users have more flexibility, but they also must take care to not repeatedly try to re-book a meeting to avoid annoying other users with too many meeting updates.

Asynchronous Booking is available in both Exchange 2003 and Exchange 2007 installations of the TCX Integration. On Exchange 2007 installations, it is the default and can not be disabled. On Exchange 2003 installations, the integration can be configured to allow or deny Asynchronous

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requests. On Exchange 2003 installations, a TANDBERG provided inbox sink facilitates Asynchronous requests. In Exchange 2007, the Resource Attendant provides this functionality, and is configurable using the Exchange Management Shell.

## Direct Resource Booking/Synchronous Booking

In this model, when creating a meeting, users put the resource accounts for the meeting in the **Resources** field of the meeting invitation. By doing so, the Outlook client tries to save the meeting in the resource's calendar directly before the meeting is allowed to be saved by the user. The benefit to this is the user gets immediate feedback if the meeting can be saved in the resource accounts calendars and avoids needing to edit a meeting after it is saved due to a later rejection. In this model, the user must use the **Resources** field in the meeting invitation for resources, and not the **Required** or **Optional** fields.

The negatives to this model are that it requires specific calendar permissions and settings to operate. The TCX Configuration Utility automates those tasks when enabling resource accounts, minimizing that burden.

In the previous product, Direct Resource Booking was the default booking model as it offers greater controls over who can book which resource and for the user feedback. When TCX is installed on an Exchange 2003 server, this model is still the default choice.

Exchange Server 2007 changed the booking models available, and Direct Resource Booking is no longer the preferred booking model in Exchange. The new policy controls and Resource Booking Attendant have enabled new features and better manageability. As such, with Exchange 2007 installations and going forward, Direct Resource Booking is no longer the default, and no choice is given to disable e-mail based reservations (Asynchronous Booking).

## Using Direct Resource Booking in Exchange 2007

It is possible to use Direct Resource Booking with Exchange 2007 but it is not the recommended scenario and functionality is reduced compared to Exchange 2003. This manual is not written to describe the combination of Exchange 2007 and Direct Resource Booking. For those that wish to continue to use this model, the additional details below are provided to account for differences in the regular manual text as it relates to Direct Resource Booking.

- You must have Public Folders deployed in your Exchange Organization.
- When upgrading from Exchange 2003, and reusing existing accounts, do not convert the mailboxes to type room or equipment – leave them as user mailboxes.
- To use Direct Resource Booking, an account must be a user mailbox type, not a room or equipment type. This means you can not use the Configuration Utility to create new mailbox accounts. You may follow the steps in the Appendix for using TCX with Separate Admin roles to manually create accounts.
- The Editor and Author permission groups are not populated by default in Exchange 2007 installs. These should be defined and used as they were in Exchange 2003 to properly grant users the ability to directly book in an account's calendar. Ensure the groups are defined, and use the 'Add Calendar Permissions' action in the Operations Tab of the Configuration Utility to add the permissions to selected accounts.
- The 'Enable AutoBooking' action will not be available in the Configuration Utility. Follow the steps in the section **Manually Enabling Auto-Accept** to enable Auto-Accept in the calendar of newly created resources.
- Users who incorrectly try to use Email invitations to an account bookable only through Direct Resource Booking (a user mailbox instead of a room or equipment mailbox) will not get a reject message nor will the meeting be booked.

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# Appendix - Creating the Organization Forms Library in Exchange Server 2007

During the installation of the first Exchange Server 2007 as a new Organization, the setup prompted the user with 'Do you have any client computers running Outlook 2003 and earlier or Entourage in your organization?'. If the user answered yes, a Public Folder database and Organizational Forms library was automatically created. If they answered no, no Public Folders would have been created and creating a Public Folder Database is most likely required to be able to publish the TANDBERG form.

If Exchange Server 2007 was installed along side an existing Exchange Server 2003 environment, the Public Folder database should have been created and configured to replicate with the existing 2003 Public Folder database and Organizational Forms Library.

The steps below cover the basic concepts for setting up Public Folders and an Organizational Forums library in Exchange Server 2007. Due to the high variation in installations, these are not step-by-step instructions but rather a collection and guide to the reference material provided by Microsoft regarding Public Folders and Organization Forms Libraries in Exchange 2007. Administrators should reference Microsoft's documentation for more detailed information regarding Public Folders.

## Relevant Microsoft articles:

**Understanding Public Folders** - http://technet.microsoft.com/en-us/library/bb397221.aspx

**Understanding Public Folder Replication** - http://technet.microsoft.com/en-us/library/bb629523.aspx

**Managing Public Folders** - http://technet.microsoft.com/en-us/library/bb124411.aspx

**How to Create a New Public Folder Database** - http://technet.microsoft.com/en-us/library/bb123687.aspx

**How to View or Configure the Settings of Public Folders** - http://technet.microsoft.com/en-us/library/bb123509.aspx

**How to View or Modify Public Folder Database Settings** - http://technet.microsoft.com/en-us/library/bb124522.aspx

**How to Create an Organizational Forms Library in Exchange 2007** - http://technet.microsoft.com/en-us/library/cc540468.aspx

http://support.microsoft.com/kb/933358

**Configuring Public Folder Permissions** - http://technet.microsoft.com/en-us/library/bb310789.aspx

## Setting up an Organizational Forms Library

These steps must be performed by an Exchange Administrator. See the supporting Microsoft articles for specific permissions.

1. On an Exchange Server, open the Public Folder Management Console by opening the Exchange Management Console, clicking on **Toolbox**, and then double-clicking on **Public Folder Management Console**. If there is an existing Public Folder Database, the console will connect to it, and the navigation tree will list both **Default Public Folders**, and **System Public Folders**. Public Folder Databases can also been in the **Exchange Management Console > Server Configuration > Mailbox** and viewing each server's databases.
2. If no Public Folder Database exists, you will need to create one and mount it. See How to Create a New Public Folder Database - http://technet.microsoft.com/en-us/library/bb123687.aspx for assistance with creating a new Public Folder Database. Once completed, you should be able to open the Public Folder Management Console, and be able to expand **System Public Folders** and see **EFORMS REGISTRY**

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3. Using the Exchange Management Shell, create a new Public Folder named **TANDBERG Form** under EFORMS REGISTRY for the Organizational Forms Library.

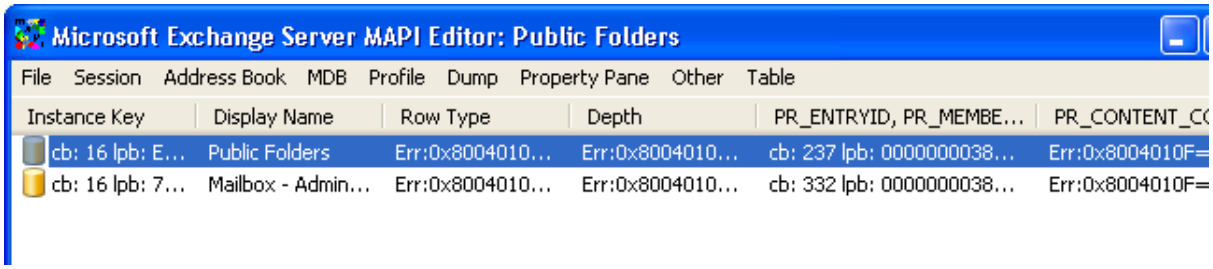
   Example:

   ```
   New-PublicFolder -Path "\NON_IPM_SUBTREE\EFORMS REGISTRY" -Name "TANDBERG Form"
   ```

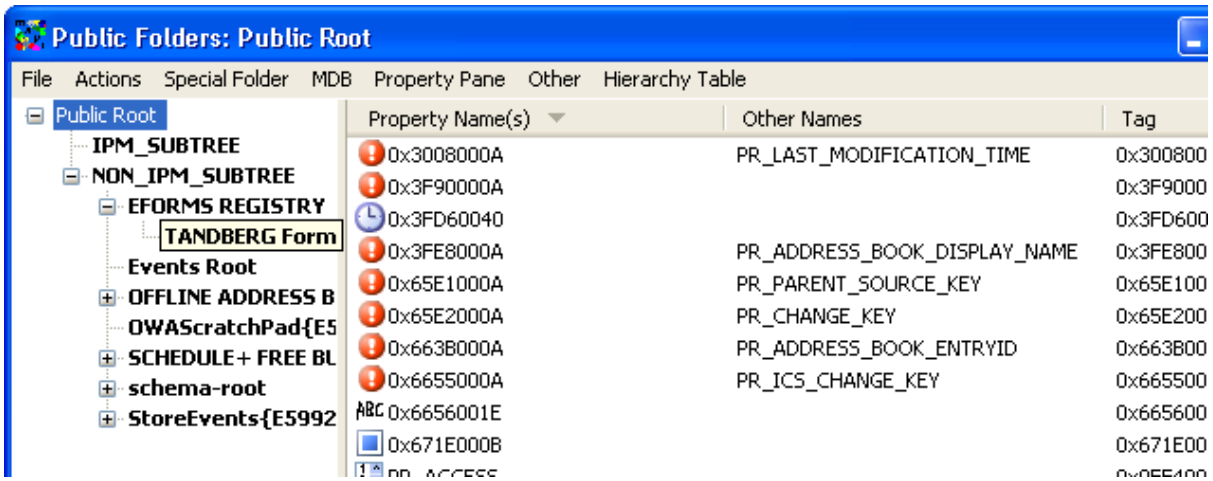
Later steps require the use of the Outlook client and having an active mailbox with specific permissions to the Public Folder that was created. The administrator who created the Public Folder by default has sufficient permissions to complete those steps. However, if that administrator can not use an Outlook Client with a valid mailbox, you must grant permissions to the Public Folder for a user who can use Outlook. To grant the required permissions to a user, use the following commands in the Exchange Management Shell, substituting in the correct domain\username for the user to be granted the permissions.

```
Add-PublicFolderClientPermission -Identity "\NON_IPM_SUBTREE\EFORMS REGISTRY\TANDBERG Form" -User "domain\username" -AccessRights Owner
Add-PublicFolderAdministrativePermission -Identity "\NON_IPM_SUBTREE\EFORMS REGISTRY\TANDBERG Form" -User "domain\username" -AccessRights AllExtendedRights
```

4. As the Administrator who created the Public Folder, or as a user granted the required permissions in the previous step, switch to a computer with Outlook installed with a valid mail profile.
5. Download and extract the MAPI Editor from Microsoft - http://go.microsoft.com/?linkid=5684182
6. Launch the mfcmapi.exe executable.
7. From the **Session** menu, select **Logon and Display Store Table**. If prompted, select the correct mail profile to use. The screen will update to show the stores from the user's profile.




8. Right click the row with the Display Name **Public Folders** and select **Open Store**
9. Expand the tree in the left panel down to the **TANDBERG Form** folder. **Public Root -> NON_IPM_SUBTREE -> EFORMS REGISTRY -> TANDBERG Form**




10. In the center panel, scroll through the list and find the entry starting with **PR_URL_NAME** and select it

11. From the **Property Pane** menu, select **Modify Extra Properties** and a new **Extra Properties** window will appear.
12. Click the **Add** button and the **Property Tag Editor** Window will appear
13. Click the **Select Property Tag** button
14. Scroll through the list and find **PR_EFORMS_LOCALE_ID** , select it and click **OK**
15. Click **Ok** to close the **Property Tag Editor**. Click **Ok** again to close the **Extra Properties Window**
16. The **PR_EFORMS_LOCALE_ID** Property will now be listed with a red icon next to it in the property list.
17. Double-Click **PR_EFORMS_LOCALE_ID** and in the unsigned decimal field, enter **1033** and click **Ok**.
18. Close the MAPI Editor.

For Microsoft's description of the steps using the MAPI Editor, please see How to create an Organizational Forms Library in Exchange 2007 - http://support.microsoft.com/kb/933358

This completes the steps necessary to create the Organizational Forms Library. Administrators performing an installation can continue onto the **Publishing the TANDBERG Form** and **Configuring clients to use the Form** sections of the documentation.

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# APPENDIX - USING TCX INTEGRATION WITH REDUNDANT TMS SERVERS

If your TMS installation includes multiple TMS front-end servers in a redundant or fail-over scenario, some additional care must be taken when installing and configuring the TCX Integration. This section will cover any to be aware of to ensure the TCX Integration will continue to work in your redundant or fail-over scenario.

## Pre-Installation

The TMS side service account is normally created by the installer as a local Windows user. Because the TCX Integration should be able to use any of the TMS servers, a domain user account should be used instead so the credentials will work on any of the servers.

1. Create or designate a Domain user account you will use as the TMS side service account. Using this account, open a web browser and log into the TMS web interface so a user profile will be created for the user. Once complete, close your browser.
2. Open a web browser and log into your TMS server with a username that is a Site Administrator. Edit the service user's profile under ***Administrative Tools >User Administration > Users***. In the account's profile, set *Exchange Integration Service Account* to Yes. Set the user's email address to what will be the Exchange Service Account's email address. This normally would be tms-service@<SMTP Domain>[10]. Ensure the user is a member of a TMS group that has the *Book on behalf* permission set in the Group Permissions. Save the changes to the user's profile and close your web browser.

## Installation

The normal installation steps can be followed taking note of the following specifics:

- When prompted to *Select the Service Account for TMS*, select the option *I have created a service user on the TMS server* and enter the credentials of the Domain user you designated to use as the service user. For the TMS address, be sure to enter the address that is shared by your TMS servers (the DNS hostname, or load balanced address, etc). Do not select the HTTPS option unless all servers have been properly configured for HTTPS operation.

## Operation

There is no change in operation compared to a traditional TMS. By using the shared or load balanced address for the TMS server in the Configuration Utility, the integration will connect to a live TMS server the same as regular users do.

[10] If unsure of this address, enter any valid email address and you can come back and update the user's TMS profile with the correct address after the TCX Installation has been completed and the TMS-Service account is created.

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# APPENDIX - USING TCX INTEGRATION WITH EXCHANGE 2007 CLUSTERING

## Overview

The TCX Integration product has been designed to be compatible with a Clustered Mail Server created using the Continuous Cluster Replication (CCR) model of Exchange 2007.

When an organization uses Exchange Clustering, TCX can always be installed on another Exchange Server within the organization that is not part of a cluster. This is true for both Exchange 2003 and 2007 installations. With clustering support, TCX can actually be installed on an Exchange Server that is a node of a Clustered Mail Server (CMS) and will fail-over along with the Exchange Service.

In a CMS setup, TCX is installed on each node in the Exchange Cluster. The TCX Integration itself will not be clustered, and therefore will not show up in the Services/Applications of the Failover Management Console. Instead, the TCX integration on each node follows the state of the Exchange Clustered Server and is only active when the local server is the active node in the cluster.

## Clustering Requirements

Installing on a cluster requires the additional restrictions on the standard TCX requirements

| | DETAILS |
|---|---|
| Exchange Server 2007 w/Service Pack 1 | • Must be a CCR Clustered Mail Server<br>• Must be Service Pack 1 or greater |
| Windows Server 2008[11] 64bit | • Clustering requires Enterprise or Datacenter Edition<br>• Recommend a Node and File Share Majority for Quorum Model<br>• Latest Service pack recommended |

## Installation

These instructions assume your Clustered Mail Server (CMS) is already installed and operational. For assistance setting up and configuring your Clustered Mail Server – please refer to the Microsoft documentation - http://technet.microsoft.com/en-us/library/bb629714.aspx

The installation on cluster nodes follows the same general steps as a stand-alone installation of TCX with minor differences. Follow the steps below to perform a first time installation.

1. Create a Service User Manually - The service user that will be used by TCX on the Exchange Server should be created manually rather then allow the Installer to create the account.
   a. Create a new local domain user with a strong password to act as the TMS-Service service account. Example: **TMS-Service**. The TMS-Service account should have a mailbox created on the storage group hosted by the Clustered Mailbox Server. The TMS-Service account must have a SMTP email address that is reachable from the mail server used by TMS.
2. Add Log on as Batch Job permission – The TMS-Service user needs the *Log on as Batch Job* Local Security Policy setting on each Windows Server in the cluster. As an administrator, log into each server and grant the Log on as Batch Job permission to the TMS-Service user. See http://technet.microsoft.com/en-us/library/cc739028.aspx for assistance on assigning user rights.
3. Add Cluster Permissions – The TMS-Service user needs access to the Cluster so it can check the state of the cluster – it will not make any changes to the cluster. Using the Failover Management Console in Windows, right-click on your cluster and select *Properties*. Under the

[11] Windows 2003 Clusters are not supported due to MS DTC clustering requirement. Windows 2008 allows a local MS DTC Instance.

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*Cluster Permissions* tab, click **Add** and select your TMS-Service account. Grant the TMS-Service account *Full Control*. Click **OK** to save the changes.

4. Install on the Active Node – You will perform the complete installation of TCX on the Active Node of the cluster as if it were a stand-alone installation following the instructions under the **Installation and Upgrades** section with the following exceptions:
   a. When prompted to specify the Exchange Service User, select *I want to use an existing domain* account and select the TMS-Service account you previously staged. When prompted for the password for the Exchange Service User select the *I have the password and will provide it below* option and enter the password previously created for the TMS-Service user. The installer can not change or reset the Service User's password in Active Directory when in clustered mode.
   b. Note that you can not use replication for a Public Folder database hosted on a CMS server. A Public Folder database can be on the CMS server, or off the CMS server, but not both.
5. Install on Passive Nodes – Once the installation has been complete, you will repeat the Software Installation steps only on each of the Passive Nodes. Follow the instructions in the **Installation of Server Software** section on each of the passive nodes of the cluster with the following exceptions
   a. The installer will detect the presence of your existing Exchange Service Account. When prompted for the password for this account, select the *I have the password and will provide it below* option and enter the password previously created for the TMS-Service user.
   b. Only perform the Server Software installation, the other steps of installation do not need to be repeated.
   c. Any Configuration Utility customizations on the Configuration and Resource Defaults tabs must be repeated on each node by running the Configuration Utility on the node and updating the settings.

# Upgrades

To upgrade an existing TCX install on a Clustered Mailbox Server you must run the software installation on each of the Cluster Nodes with the following exceptions:

- Upgrade the Active Node in the Cluster first.
- Run the software installation steps and when the installer detects the existing Exchange Service account, select the *I have the password and will provide it below* option and enter the password previously created for the TMS-Service user. The installer can not change or reset the Service User's password in Active Directory when in clustered mode.
- After installing the software on the Active Node, repeat the installation on each of the Passive Nodes.

# Uninstalling TCX

To remove TCX from a Clustered Mailbox Server, you must run the software uninstall instructions on each node in the Cluster. You can follow the standard uninstall instructions in the **Uninstall** section. When running the uninstall on each node, at least one of the nodes must be the CMS active node when running the uninstall to complete the uninstall and disable the sinks on resource accounts.

# Operational Changes when using a Clustered Mail Server

- The TCX software automatically follows the state of the Clustered Mail Server and takes no interaction from the administrator to 'fail-over'. The TCX installation on each node independently starts and stops as necessary.
- The start-up tests ran when the Configuration Utility is opened will show the state of the current node, Active or Passive. You can also see the node state in the Configuration Utility as the Synchronizer button on the Operation tab will be disabled when the node is not the active node.

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- Unlike a stand-alone install where you should update the Exchange Side Service user password via the Configuration tool, when in a clustered mode, you must update the password in Active Directory first, and then update the TCX installation on each node. The configuration utility can not update the password in Active Directory for the service user, only the locally stored value.
- Most of the configuration elements of the TCX installation shown on the Configuration and Resource Defaults tabs are stored locally on each node, and therefore must be updated on each node if changed. To update the settings, open the Configuration Utility on each node and update the value.
- Updating the Sender email address and display name on the Configuration Tab must be updated on the active node for the change to take effect or test. Changes here will automatically propagate to the other nodes when a node becomes the active node.
- Using the features on the Operations tab of the Configuration Utility, including adding/removing resources, starting/stopping the synchronizer must be performed on the active node.

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# APPENDIX - USING TCX INTEGRATION WITH SEPARATE ADMIN ROLES

TCX normally requires the installing and operating user be a Local Domain Administrator and an Exchange Full Administrator (or Exchange Recipient Administrator for Exchange 2007 Installs). In some organizations, due to internal policy or security requirements, these requirements can not be met as these roles are explicitly separated. This section is intended to provide additional instruction on how the TCX product can be installed and operated in an environment where the Active Directory and Exchange Administrative roles are segregated.

## Assumptions/Background

The following are the assumptions about the customer environment for these instructions.

- An Admin Group is responsible for creating users, groups, and mailboxes for new users.
- An Exchange group is responsible for ongoing operation of Exchange Servers and mail processes.
- The Exchange group has local administrative rights to the Exchange server, but does not have Domain Administrative rights.
- The users installing the product are aware of any replication delays associated with their Active Directory implementation - how it affects propagation of changes in AD objects and permissions and any waits that are required before changes will take effect.
- The process description assumes this is a first time installation of the TANDBERG product.

For common terminology purposes in this guide, the user from the Admin group will be called the AD-Admin. The user from the Exchange group will be called the Exchange-Admin.

- AD-Admin is a member of Domain Admins.
- Exchange-Admin is a Local Administrator and delegated Full Exchange Administrator permissions (or Exchange Recipient Administrator in Exchange 2007).

# Installation

This section will outline how to adapt the installation process to function when the Active Directory and Exchange Administrator roles are separated.

## Pre-Installation Steps

1. The AD-Admin must create or decide which OU in Active Directory will be used for accounts related to the TCX Integration. Accounts are not required to be in the same OU, but the policy should be followed for consistency with the standard product.
2. The Exchange-Admin decides which Exchange Server and Information store will be used for the Exchange Integration (all mailboxes for integrated accounts must be located in information stores on the same Exchange Server).
3. The AD-Admin must create a new domain user or designate an existing user to be the Exchange Side service user. Example: **TMS-Service**. The remainder of the instructions will refer to this account as **TMS-Service.** When creating a new account, create a mailbox for the **TMS-Service** user. The mailbox must be in an information store on the specified Exchange Server. If re-using an existing account and the mailbox for the TMS-Service user not stored on the specified Exchange Server, the Exchange-Admin must move the user's mailbox to the specified Exchange Server before proceeding. The account must have a SMTP email address that is reachable from the mail server used by TMS.
4. The AD-Admin must set the extensionattrbute1 property on the **TMS-Service** user to be 'TMS-Service'.
    a. Exchange 2003 - Using the AD Users and Computers tool, enable *Advanced Features* from the View Menu, open *Properties* for the user, select the *Exchange Advanced Tab*, click **Custom Attributes** and edit the value of extensionAttribute1 to be 'TMS-Service'

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b. Exchange 2007 – Using Exchange Management Console, open the Properties of the Mailbox, on the General tab, click **Custom Attributes** and edit the value of extensionAttribute1 to be 'TMS-Service'.

5. The AD-Admin or Exchange-Admin must make the **TMS-Service** account a local Windows Administrator of the specified Exchange Server.
6. The AD-Admin or Exchange-Admin must grant the 'Log on as Batch Job' Local Security Policy to the TMS-Service account on the specified Exchange Server. Ensure no Group Policy setting will block or remove this permission. See http://technet.microsoft.com/en-us/library/cc739028.aspx for assistance on assigning user rights for your local computer.
7. The AD-Admin must create or identify a Windows user account that can log into the TMS server to be the TMS Side Service user. The user account can be a local Windows account on the Windows Server hosting TMS or a domain user. We will refer to this account as **tmsconfuser**.

Open a browser and log into the TMS website with a user with Site Administrator privileges. Go to ***Administrative Tools > User Administration***. If the tmsconfuser account has never logged into TMS, create a new user profile. If the account has logged in previously, find the existing user profile and click Edit. Ensure the username of the profile matches the username of the service account. Set the **Exchange Integration Service Account** value to *Yes*. Set the email address of the profile to be the email address of the TMS-Service account created in the earlier steps. Ensure the user is a member of a TMS group that has the book on behalf of permission and book permission on all systems that will be integrated (recommend using Site Administrator group which will allow access to all systems). Save the profile and close the TMS website.

8. If users will be given access to resource calendars so they can interact with the calendars directly (required if using Direct Resource Booking), the AD-Admin must create or designate an existing security group for the 'Editor' role and 'Author' security groups that will later be granted permissions to the resource's calendars.

## Stage the Resource Accounts

These steps will outline how to prepare a resource account for use with the TCX integration. These steps should be repeated for each resource account to be integrated, and anytime you need to integrate a new system and be completed before trying to enable the corresponding TMS system using the Configuration Utility.

1. Log into the TMS web interface and find the TMS *System ID* of the system that will be associated with this resource account. This can be seen by looking at the View Settings page for the system in Navigator. Example ID = 15
2. If an existing resource account is going to be reused, have the Exchange-Admin move the mailbox to an Information Store on the Exchange Server where TCX is installed. If no existing resource account is going to be reused, have the AD-Admin create a new Active Directory user and mailbox for the Exchange Resource account. In Exchange 2007 Installs, be sure to create a mailbox of type room or equipment. The mailbox for the user must be located on an Information Store on the Exchange Server where TCX is installed.
   Most of the account's properties, such as username, password, display name, and email address are not significant to the Integration and can be whatever values you chose. It is recommended you set the Display Name value to the same name as the matching system in TMS.
3. The AD-Admin must set the **extensionattribute1** property on the resource account to TMS-xx where xx is replaced with the numeric ID found in step 1. Example *TMS-15*.
   a. Exchange 2003 - Using the AD Users and Computers tool, enable *Advanced Features* from the View Menu, open *Properties* for the user, select the ***Exchange Advanced*** Tab, click **Custom Attributes** and edit the value of **extensionAttribute1** to be *TMS-15.*
   b. Exchange 2007 – Using Exchange Management Console, open the *Properties* of the Mailbox, on the ***General*** tab, click **Custom Attributes** and edit the value of **extensionAttribute1** to be *TMS-15.*
4. The AD-Admin must grant *send as* and *receive as* permissions for the TMS-Service account to this resource account.
   a. Exchange 2003 - Using AD Users and Computers, enable *Advanced Features* from the ***View*** Menu, open the **Properties** of the resource account. Select the ***Security*** tab, and

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click the **Advanced** Button. Click **Add** and specify the TMS-service account. A new window appears, change the **Applies to** drop-down to *This object only* and add the *send as* and *receive as* security permissions in the *Allow* column. Click **OK** and **OK** again to close the ***Advanced Security*** window.

b. Exchange 2007 – Use the Exchange Management Shell to grant the *send as* and *receive as* ExtendedRights on the resource account to the TMS-Service account. An example is shown below, replace the Resource and User accounts names as necessary

```
Add-ADPermission -Identity domain\ResourceName -User domain\TMS-Service
-ExtendedRights ("send-as", "receive-as") -InheritanceType All
```

5. The AD-Admin must grant *full mailbox access* permissions to the resource account's mailbox.
   a. Exchange 2003 - Using AD Users and Computers, open the Properties for the resource account. Under the ***Exchange Advanced*** *tab*, click the **Mailbox Rights** button, Click **Add** and specify the TMS-service account. While the TMS-Service account is selected, mark the checkbox for *allow full mailbox access*. Click **OK** and **OK** again to close the properties for the resource account
   b. Exchange 2007 – Use the Exchange Management Shell to grant the full mailbox access on the resource account to the TMS-Service account. An example is shown below, replace the Resource and User accounts names as necessary

```
Add-MailboxPermission -Identity domain\ResourceName
-User domain\TMS-Service -AccessRights FullAccess -InheritanceType All
```

6. The AD-Admin must configure essential Calendar Settings for the account.
   a. Exchange 2003 – This step will be completed using the Configuration Tool and can be skipped here
   b. Exchange 2007 – Use the Exchange Management Shell to change the MailboxCalendarSetting AutomateProcessing to AutoAccept and disable the default settings that change the conference title. An example is shown below, replace the Resource account name as necessary

```
Set-MailboxCalendarSettings -Identity domain\ResourceName
-AutomateProcessing:Autoaccept -DeleteSubject $false
-AddOrganizerToSubject $false
```

## Run the Software Installer

Once the Pre-Installation and staging steps have been completed, the standard TCX software installer can be run taking note of the specific steps outlined below. For a more detailed description of the software installer's steps, see the **Installation of Server Software** section.

- The Exchange-Admin user should be the user to run the installer
- When specifying the Exchange Service User, the installer will automatically detect the pre-staged **TMS-Service** user account. Accept to use this account, and when prompted for the Exchange Service User Password, *select I have the password and will provide it below* and enter the password set during pre-installation.
- When prompted for the TMS Service user account, select *I have created a service user on the TMS server* and enter the credentials of the **tmsconfuser** account setup during pre-installation.

## Enable the Staged Resource Accounts

After the server software has been installed, the Exchange-Admin can use the Configuration Utility to enable the accounts that were previously staged by the AD-Admin. These steps can be repeated any time new resource accounts have been staged and are to be added to the TCX Integration.

1. Start up the Configuration Utility from the Start Menu as the Exchange-Admin. The utility is found at ***Programs > TANDBERG > TANDBERG Conferencing eXtensions for Microsoft Exchange > TANDBERG Configuration***
2. During the self-test during the start-up of the Configuration Utility, it will detect errors with any accounts that have been pre-staged. When prompted if you wish to repair them, click **Yes** . The utility will setup the sinks automatically for you.

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3. If users are to be granted permissions to the resource calendars, the AD-Admin should have specified these groups during the pre-installation steps. Switch to the ***Resource Defaults*** tab, and ensure the groups are set in the Resource Calendar Permissions section. If not, use the **Browse** button to select the existing group for each setting. Switch back to the *Operations* tab when complete to continue

The accounts that were pre-staged will appear in the right hand column as if they were already enabled. You will use the actions available in the Configuration Utility to complete the setup of the accounts.

4. Highlight the accounts that have been pre-staged. Use the shift or control keys to select multiple systems. Right-click the highlighted systems and select **Add Calendar Permissions**. A pop-up window will appear showing the progress of the work. Click **Ok** when complete.
5. Repeat the previous step for each of the following actions
   a. Enable Autobooking[12]
   b. (Re-) Book all Meetings

The pre-staged accounts are now properly integrated with TCX.

### Completing the Installation

Once the initial resource accounts have been fully enabled using the Configuration Utility. The remainder of the installation should be completed using the standard installation instructions under:

**Starting the Synchronizer** – To be completed by the Exchange-Admin

**Configure Security Settings and Tuning**- To be completed by the AD-Admin and Exchange-Admin

**Optional - Deploying the TANDBERG Form** – To be completed by the Exchange-Admin

## Upgrades

When performing an upgrade, the existing accounts remain intact, so no Staging or Pre-Installation steps are required by the AD-Admin. The setup file can be run by the Exchange-Admin following the standard instructions.

If the previous copy was uninstalled rather then performing an in-place upgrade, the existing resource accounts had their Integration elements disabled during the uninstall. Once the software installation is complete, open the Configuration Utility. The Utility will detect that the sinks are disabled on your resource accounts and prompt if you wish to repair them. Click **Yes** when prompted and your accounts will be re-enabled.

## Uninstalling TCX

The product can be uninstalled by the Exchange-Admin using the standard methods. Optionally, if the resource and service accounts will not be needed for future use, the AD-Admin can safely remove the accounts completely. See **Complete Removal of Product** for more details.

## Operational Changes

When using separate Exchange and Active Directory administrators, not all features of the Configuration Utility will function because you may lack the permissions necessary. The Utility will return an error if you do not have sufficient permissions to complete the task.

[12] This is not available in the configuration utility when installed on Exchange 2007 servers. This setting is only needed if doing Direct Resource Booking.

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## Operation Tab Changes

The following action commands will not complete without AD-Admin rights

| | |
|---|---|
| Add Service User Permissions | Reconfigure Account(s) from TMS |
| Remove AD User(s) | Detach from Integration |

## Removing/Disabling Accounts

Without full permissions, accounts can not be removed automatically using the Configuration Utility.

To remove an account from the Integration without removing it from Exchange-only booking, do the following:

1. Using the Configuration Utility, have the Exchange-Admin use the *Disable Sinks* action in the Operations tab
2. Using AD Users and Computers, have the AD-Admin remove the following from the resource account
   a. the *extensionAttribute1* value
   b. the *send as* and *receive as* permissions granted to the TMS-Service account
   c. the *full mailbox access* permission granted to the TMS-Service Account

To remove an account from both the TCX Integration and Exchange-only booking, simply have the AD-Admin delete both the user account and mailbox.

## Configuration Tab Changes

*Change the Password for Service User* requires AD-Admin permissions to use.

The other settings may be configured by the Exchange-Admin.

## Resource Defaults Tab Changes

All settings may be changed by the Exchange-Admin.

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The objective of this Guide is to provide the reader with assistance in using and configuring their TCX. Product capabilities of TANDBERG and other manufacturers' products change over time and so the required configuration may be different from that indicated here. If you have any suggestions for changes to this document, please feed them back to TANDBERG through your TANDBERG Authorized Service Representative.

If you need technical support, please contact your TANDBERG Authorized Service Representative.

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